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EUROPE AND PEACE.

I. Could the assurances, repeated a short time ago as with one accord by the sovereigns of the principal Powers of the Continent, suffice to instil the feeling of security in the future, Europe would have reason to be perfectly tranquil. We have seen them, one after the other, undertake journeys and exchange official visits, as if they felt the necessity of a solemn occasion for proclaiming throughout Europe words of peace.

Still Europe is far from being reassured. It is that, though nations as well as individuals like to delude themselves, nay, feel almost an instinctive necessity for doing so, an instinct still more powerful makes them feel the inexorable logic of facts.

It matters little that peace is apparently desired by all, that there is no one who at this moment would dare to declare himself contrary to it. In politics the present means nothing, or but very little; and as far as the future (the sole real political end) is concerned, it is of

no use to hide the truth. The only wise policy is that which seeks after what is possible, without troubling itself with what is only desirable. In other words, notwithstanding the formal assurances and the declarations of Emperors who are sometimes considered as little less than arbiters of the peace of Europe, the real question is this alone: In the present state of Europe is the maintenance of peace possible in the long run?

In trying to answer the question, it is necessary to begin by noting that the peace of which we are speaking is nothing but an *armed peace*. The armaments, instead of stopping, continue; in every Parliament the means of increasing them have been discussed; the two nations which come out weakened by a cruel war, carried on most determinedly, have hastened to pass laws by which the armies of both are not only reconstituted, but also augmented by several hundred thousands of armed men.

Russia, too, in her peaceful compo-

sure silently prepares herself for war, nay, has already done so, and at any moment will be ready to set in motion nearly three millions of soldiers !

True, it is henceforth recognized in Europe that to be strong and prepared is the best guarantee of peace, and the old saying, *Si vis pacem para bellum*, is accepted without discussion ; but no one will deny that this is only an abstract formula of astute policy, not the expression of a historical fact. How many, in truth, are the examples, in ancient or in modern history, of warlike preparations having had peace for their final result !

In any case the longed-for day seems still distant, in which, in virtue of the judgment of a tribunal assembled for the settling of international disputes, war in Europe will become impossible. Noble and generous, and greatly to be desired, is the proposal of Cobden, received and supported by Mr. Henry Richard and his friends, that *arbitration* may one day banish from the world De Maistre's mad and wicked doctrine of the necessity of bloodshed. Still it is worthy of notice that the Emperor Alexander, after having at Berlin, at Vienna, and at London, as in his own capital, St. Petersburg, expressed the greatest belief in peace, promoted with all his power the international Congress of Brussels. It was certainly not by mere chance that the Czar showed himself illogical in giving proof of practical good sense.

II. In order to arrive at a clear understanding of the situation we must carry back our thoughts to 1848. It is easy to convince ourselves how little the period of history beginning with that date can be called a period of peace ; on the contrary, it has been a period of war, or of preparations for war. In 1848, as in 1789 and in 1830, it is the whole of Europe which rises under the impetus of new ideas. At Paris, the French send away Louis Philippe ; at Berlin, the Prussians set free the Polish prisoners ; at Bucharest, the Roumanians burn the organic regulations of the Russians ; at Pesth, the Hungarians begin their separation from Austria ; the Hungarian Czecks declare themselves in favor of a Slavonian federation ; at Milan and at Venice they will have nothing to do with Radetzky and Zichy ; all Eu-

rope, in short, is in a ferment, and on all sides arises a violent antagonism between nations and their governments. These different movements, however apparently sterile at the time, were really fruitful in their final results : Italy, Germany, Roumania, exist as so many proofs of what we advance. Many questions, however, remain unsolved ; and in that terrible struggle the accord which reigned between the principal Powers of Europe was broken, especially that unity of policy which drew its origin from the Treaty of Vienna, and still existed in spite of the separation of Belgium from Holland—a separation which had already altered that condition of Europe which was a dogma of the Holy Alliance, and was to have been eternal.

This Holy and self-interested Alliance between the great absolute and military monarchies of the Continent, together with the exhaustion occasioned by the long previous struggle, had rendered peace possible till then ; once that good understanding ended, the old arrangements were set aside, and the relations between the single Continental States became uncertain and fraught with danger. The friendly terms between Vienna and Berlin, and between these two and St. Petersburg, did not come from mutual sympathy and friendship between the nations, but exclusively from an interest common to their three respective Courts, and directed to the same political ends ; when the interest ceased, nothing remained.

Hence a new era, and new political combinations, at the bottom of which always lies interest, but an interest different from that of the old ; an interest less personal, less narrow, more in harmony with the rights of the people.

The Crimean war in 1854, that of Italy in 1859, that of Schleswig-Holstein in 1864, and the Austro-Prussian war of 1866, and, finally, that of France and Germany, have changed the bases of international public rights, and, so to say, completely altered and reconstituted on new bases the interests of Europe. Let us mark it well : it never was a Congress, or the work of diplomacy which succeeded in settling any of those disputes ; it was always war, always the work of force.

The war of 1870 was, to a great extent, the consequence of that of 1866. Napoleon III., by imposing on Prussia the line of the Main, after having himself favored the aggrandizement of that monarchy and the progress of the German unity, did but render the conflict inevitable.

In the midst of the changes in Europe of 1848, and of the dissolving of the old ties, the great struggle between Austria and Prussia for supremacy in Germany had broken out more violently than ever; a struggle which, after having manifested itself in various ways at Frankfort, Erfurth, and Olmutz, sought after a solution in the Treaty of Nikolsburg, which repulsed Austria from Germany, if not in fact; at least in right.

In vain does Schwarzenberg, in order to make Austria the centre of the German Empire, prepare the great transformation of the Hapsburg Monarchy by the liberal programme read by him on the 27th November, 1848, at the Diet of Kremsir, a programme in which the youthful nephew of Ferdinand proclaims that it is necessary to construct in a near future *a new order of things*; in vain does the *coup d'état* in France suggest later in the bold minister the idea of dividing Europe into three great States, one of which, the German, would belong to Austria. The current which, as Edgard Quinet had already some years before noted, carried German opinion towards Berlin, is irresistible; and in spite of the posterior errors of Prussia, in spite of the reaction protected by Frederic William the Fourth's Prime Minister Radowitz, who persists in calling the old régime the *German and Christian State*, that current prevails, and Sadowa at last vindicates Olmutz.

The war of 1870 left in its turn a suite of very serious and fatal consequences; some of them are already so evident that it is possible to point them out, if not to define them.

It is certain that one of the effects of the Franco-German war has been to greatly increase the power of Russia, owing to the deep hatred excited between the other two great military States of Europe; consequently the alliance with Russia is sought after with equal eagerness and equal pains by France and by Germany, in view of a new war.

Which of the two has the greater chance of success is a difficult question, in the solution of which it is difficult not to yield to preconceived notions not always well-founded.

The question is not only which of the two Powers will show the greater skill in securing the precious alliance, but also, and above all, which of the two Russia will find more advantageous for her interests.

France may aim at recovering not only her lost provinces, but also the entire left bank of the Rhine. Prussia may have a still wider plan: she may ardently long for further spoliations of France; she may desire to crush the independence of Holland, to swallow up the rest of Denmark, to complete the separation of the German part of the Austrian Empire, perhaps even to conquer the Russian provinces of the Baltic. All this is possible; but we must not forget that Russia has one great object, to which all her efforts tend—she aspires to supremacy in Europe as well as to the extension of her already vast dominions. Hence the probability that the power which will best be able to help her to attain her ends will be the ally preferred by Russia.

It is well known that the so-called Eastern Question is more European than Oriental, as in it are interested all the principal Powers of Europe. Even were Russia to aim at extending her territory and influence only in Asia, it is doubtful whether she could reckon on herself alone, and find her interest in peace instead of in war. Reasoning in the abstract, we should say that Russia could continue her progress in Asia, and go on by the side of England with that work of equal profit and civilization; that there need not arise between them any occasion for rivalry and discord, so vast a field affording full scope for both. The expedition of Khiva and the last events in Afghanistan have, however, given rise to some anxiety in this respect; and already fears are entertained that Asia too is to have her Eastern question, and that the Yellow Sea, like the Bosphorus and the Black Sea, is fated to behold a conflict, all the more terrible should the great American Republic join in it. Heaven forbid such a misfortune! But it is vain to hope that

Russia will abandon her traditional policy, and give up her other object; that is, voluntarily renounce her ambitious views on Constantinople. It is not in the least probable that she can sincerely desire peace so long as, by a strange hypothesis, it does not answer her purpose so well as war. The more common opinion is that Russia, obliged to choose between the French or the German alliance, would incline rather to the former, either because Germany is now the stronger power, or because the integrity of the Ottoman Empire is of but little moment to her. It is well not to give too decided an opinion on political possibilities; there is, however, reason to entertain some doubts on the subject, if we consider that, in spite of what is said, it is far from certain that Germany is so perfectly disinterested in one or the other solution of the Eastern Question as to leave her ally free to do what she likes. Germany having, as it is evident, an interest in keeping up the hope of extending, sooner or later, her dominions to the seas of the South of Europe, it cannot be indifferent to her that Russia should become mistress of all the shores, at present directly or indirectly Ottoman, along the eastern coast of the Black Sea; for that very day she would find between herself and each of those seas a powerful State which would shut her out for ever. Though the integrity of the Ottoman Empire is a principle less sacred for her than for France, for England, and, till lately, for Austria, still it is hazardous to affirm that Germany has no interest whatever in the Oriental Question. The care with which Prussia hastened to set one of her princes on the throne of the Danubian Principalities is calculated to prove rather than to discredit the truth of our assertion.

Those who believe too fully in the unconditional and indissoluble alliance of Germany with Russia forget another thing—that the cordial relations between the two Courts do not prevent there existing a deep and rooted antipathy between the two nations. There is nothing more curious and instructive than the history of the hatred latent between the two races, in spite of the alliance, often renewed, between their respective dynasties; and of the efforts of the German party, represented at the Russian

Court by Munich, Ostermann, Biren, and other Germans—all so ill-requited for their zeal,—and lastly by Nesselrode, the able minister of the Emperor Nicholas. This antipathy did not, indeed, prevent Frederic the Second and Catherine from coming to an agreement with Joseph the Second of Austria for the division of Poland; but it is necessary to bear in mind that the principal aim of Frederic the Great was then not so much to aggrandize his State, as to take advantage of that circumstance to stop the Muscovite army in its victorious march towards Constantinople. Frederic himself says in his 'Memoirs': 'There were two lines of conduct to follow; either to stop Russia in her immense conquests, or, what was more prudent, to have the skill to profit by them. Hence came the outline of a project for dividing between Russia, Austria, and Prussia the several Polish provinces.'

III. We cannot mention the political period which we are traversing, nor the wars which have troubled it, without noticing another great State whose action can, nay, ought, to weigh heavily in the balance of European destinies—Austro-Hungary.

This empire, not long ago reconstituted on new bases, and gone over from the old to the new *régime*, now, after having happily solved the most important of its national internal questions by means of *dualism*, that is to say, autonomy granted to the Hungarian nation; after having overcome with equal success other internal difficulties, would require a long peace to enable it to consolidate itself. Sadowa, by obliging Austria to leave the Germanic Confederation, and to retire totally from Italy, pointed out to her, as her sole chance of salvation, the necessity of frankly following out a liberal and national policy. The task, less arduous under the frank and intelligent direction of Count Andrássy, is still surrounded by difficulties. It is necessary to satisfy the aspirations after liberty and autonomy of the various nationalities composing the State, without endangering the unity of the monarchy. These nationalities hold together at the cost of sacrifices which can be imposed on them only by the principle of liberty, united to the idea of ma-

terial advantages, which would be seriously endangered by war. In one part of the monarchy the Germans are more or less in open conflict with the Czecks of Bohemia and the Poles of Gallicia; in the other, the Magyars cannot reckon on the sympathy of the Slavonians of Croatia, or of the Roumanians of Transylvania. The sole remedy for such difficulties would evidently be a peace of long duration, which would allow time for correcting, and little by little forgetting the defects of dualism.

The question is now whether the Austro-Hungarian Empire will provide for the interests of peace and its own, by means of the new policy entered upon as regards the Eastern Question. It is difficult to say if the reconciliation of Russia to Austria (reconciliation which seemed impossible after the latter's conduct during the Crimean War, and her occupation of the Danubian Principalities) is owing to Prince Bismarck, with the view of isolating France, or is to be attributed to Count Andrassy, who seems disposed to repudiate Metternich's policy concerning the integrity of the Ottoman Empire. At all events, it is not probable that the apparent reconciliation between the two Empires can signify that Austria has succeeded in converting Russia to her conservative policy in the East, or Russia in converting Austria to her aggressive policy against Turkey; but, on the contrary, that the Powers have found it convenient to agree upon a new line of conduct, each giving up some of its old pretensions. The fact of Russia's reconciliation to Austria proves this alone; that both give up all thoughts of aggression, and wish, if possible, to solve the question in such a way as to forward their mutual interests. Austria renounces denying and combating the efforts of the Slavonians of the South and of the States belonging to Turkey in the Lower Danube; Russia abandons all intention of constantly favoring the movements and aspirations of those populations, and of propagating a Slavonian line of policy inimical to Austria—a policy of which General Ignatieff has been for the last ten years the faithful as well as able representative at Constantinople. This seems at least probable in the present state of things. But will

the two powers succeed in their intent? Here, too, is an important question. Austria, like Germany, can march together with Russia at the outset, both powers having the same starting-point; but little by little the roads diverge: thus, at the end each power may find an enemy in its former ally. Certainly neither of them can allow the other too bold a progress on the road to the Bosphorus without destroying itself. History will say whether Austria has done wisely in quitting her old policy in the Eastern Question. In the meantime, it is certain that since the understanding on this subject between Austria, England, and France has come to an end, there is nothing impossible for Russia, and the Turkish Empire is in constant peril.

The revision of the Treaty of Paris of 1856, which Russia, promptly taking advantage of the prostration of France, asked and obtained in March, 1871, as to what relates to the navigation of the Black Sea, is a sign of this. Prussia, who had won the moral approval of Russia during the wars of 1866 and 1870, necessarily showed herself easy, and in her turn raised no obstacle to the other's wishes.

One cannot mistake as to the causes of such compromises and such agreements. It is easy to understand that Austria should have found it well to reconcile herself with Russia after the war of 1870, which gave to the German Empire, represented by Prussia, so great a power and prestige on the European Continent.

Notwithstanding the sympathy and the exchange of friendly expressions between the Sovereigns, political men at St. Petersburg and at Vienna foresee in the aggrandizement of Prussia and the formation of the unity of Germany a cause of weakness, if not of peril, to the two Empires. Germany, in her turn, feels the necessity of securing friends, as any war may take from her or endanger the fruits of her hard-won victories. Besides this, is it probable that Austria would willingly give up to her ancient rival the mission of extending civilization and German supremacy towards the East? Her having hastened to perform a radical change in her, so to speak, traditional policy; her having abandoned her animosity against Roumania and

Servia; the Emperor Francis Joseph's cordial welcome of their respective princes at the Exhibition of Vienna; his having received kindly and like a sovereign Prince Nicholas of Montenegro; his defence of the Christians of Bosnia;—might not all this signify that Austria will not allow another to take the place to which she feels she has a right? For her, even more than for Germany, the improvement of the economical conditions of the East, so favored by nature, is an important question. Dalmatia, with her magnificent harbors and brave seamen, is the natural outlet for the productions of Bosnia and of the western districts of Turkey. The internal tranquillity of the Turkish Empire, as well as her prosperity, is a question of vital interest for Austria. Any troubles amongst the Slavonians of Turkey would find an echo in her own. Besides, her action in those countries is less difficult, as she cannot, like Russia, be suspected of too much *panslavism* nor of too much *pangermanism*, like Germany; nor can the resemblance between the order of the Austro-Hungarian Empire and that of Turkey add weight to the Cabinet of Vienna in the councils of the Sublime Porte. The Christian population of Turkey can observe with advantage the results obtained by Hungary by means of a patient and at the same time tenacious line of policy.

IV. There are two other great European nations to which a wiser policy must render peace desirable—England and Italy. England, at the head of an immense empire, requires peace; she cannot let her vast interests depend on the political crises of Europe. It is a mistake to believe that the policy of the Cabinet of Saint James', which is remarkable for carefully avoiding every occasion of conflict in foreign parts, and for occupying itself especially with the affairs of the country and its economical and financial questions, is peculiar to the Manchester political school. We may be certain that Lord Derby's ideas in this respect cannot differ much from those of the Chief of the Foreign Office of any Whig ministry. He has already had occasion to give a proof of this in his answer, in the House of Lords, to Lord Russell's questions on the continuance of peace in Europe. His words express,

in their eloquent laconism, his sense of the dangers which threaten peace on the Continent, and of the evils which new disturbances would bring on England; but at the same time his intention of not allowing the country to depart from that system of prudent reserve which has won for it the most envied prosperity at home, and universal respect abroad.

Well considered, the words uttered more recently by Mr. Disraeli, at the banquet of the Lord Mayor, do not differ in meaning, though, owing to the time and place, they may have seemed less reserved. The dominant idea even in these is, that the great influence which England possesses cannot be more usefully exercised than in the interest of peace.

'I do not for a moment lay down the principle that we are not responsible to the countries of Europe in many of the questions which may arise, and which may affect the future of the world; but we believe that in the present condition of affairs the influence of England may be exercised, and with great effect, not only to preserve peace, but to assist, by our sympathies and by our counsels, States and countries now distracted and disheartened, in assuming a position worthier of their future fame and fortune, and may reconcile interests which, now discordant and distressful, seem to be exhausting the energies of some of the fairest countries of the world.'

So spoke on that occasion the Queen's Prime Minister. Some days later he again showed anxiety about the perils of the situation, when he plainly declared in the House of Commons that *notwithstanding the apparent general tranquillity with the exception of one unfortunate country (by which he evidently meant Spain), there are at present elements at work such as to prepare a period of great changes.*

As to Italy, her foreign policy in the present state of Europe is traced by her very position, as also by the principles in the name of which she has made her revolution, and to which she owes her independence and unity. Till lately, divided and oppressed, she was a hotbed of wars and discords in Europe; but now she is, and ought to be, a pledge of peace and order. Without renouncing a regular action, worthy of her in general politics, Italy ought to take advantage of a precious period, which might soon fail her, to compose

herself, and actively see to her internal government and the order of her finances; a question to her of the most vital importance.

The cause of their long antagonism having ceased to exist, Austria is no more her natural enemy; all trace of resentment has disappeared; the old hatred is changed into warm friendship; and the Italian nation rejoices to see the renovated Empire going onwards with itself in the paths of progress and of liberty. The good understanding between these two great Powers is a happy element in the interests of European peace; and it is to be desired they should perceive that for such an end the time is come for them to unite their influence to that of England. An accord between these three free States, occasioned by community of interests, and strengthened by the homogeneity of principles and institutions, would be still more useful than alliances properly so-called, which are formed for a definite end, and from the beginning contain germs of discord instead of peace. England would have no motive for refusing her warm support to a pacific as well as an eminently liberal policy; and her active co-operation would prove all the more useful, as she cannot be suspected of seeking after conquests and aggrandizements in Europe. A league of this kind, for a united action in European affairs, would be strong and efficacious; the lesser States, and whoever might have reason to fear abuses of strength, would become so many natural allies, and would find in it a guarantee and a security from danger.

V. A happy effect of the union of England, Austro-Hungary, and Italy in the politics of Europe, would be that of reconstituting the equilibrium fatally destroyed by the war of 1870. One of the most deplorable moral consequences of that war was to destroy the union between England and France, whose common action in European affairs for more than forty years had been so favorable to the principle of nationality and to the cause of liberty.

Belgium and Switzerland suffice to recall to our minds the support which France gave to England in favor of these two small but noble nations. France was with England in supporting

the first steps of Spain in constitutional life; they fought together in 1854, in defence of Turkey against Russia, as, twenty-seven years before, they had fought together against Turkey in defence of Greece; the slow dissolution of the absolutism established in Europe after 1815 may be said to date from their alliance; to it, also, are more or less directly owing the extraordinary changes which have taken place since 1830 in the political ideas and in the government of the Continental nations.

Both England and France have as great an interest as ever in carrying out sincerely the same line of policy; any interruption in their mutual understanding can be but momentary, and caused by the provisional state of the French Government. England must desire that France should entirely regain her position and ancient influence in the councils of Europe.

The Second Empire, which had destroyed the treaties of 1815, was in its turn beaten at Sedan; and it is still uncertain what in the future will be the definite government in France. This state of uncertainty is much to be lamented; it has been said with truth, that, 'When France is discontented, Europe cannot rest.' But it would be absurd to believe that France, because she has been beaten, is much less great than in the past; the France of 1789, she who gave the liberal impulsion which roused Europe to a new life; that France which was always wherever there was the triumph of a noble principle to be favored, whose sons but lately shed their blood on the fields of Lombardy for the redemption of Italy, cannot all at once have lost her importance in Europe. She cannot remain unconcerned in the great political problem of the day—that is, the combinations which are shortly to arise from the violent displacing of alliances and interests, and from the laborious confusion of politics in the East as well as in the West of Europe. The difficulties for France are mostly internal; but even these are far from being insuperable. In this respect, too, France is in need of independence, not of isolation.

'Four or five questions, each of which implies a revolution, are incessantly in every mind and on every lip. Can the

Republic be founded? Can the Monarchy be reconstituted? Which Monarchy: the Empire, or the House of Bourbon? The elder or the younger; or both together, and by mutual accord?

These words of Guizot's, written in October, 1850, might have been penned but yesterday, and dictated for the present state of France.

A result of the interruption in the understanding between France and England on European politics is the internal reaction against which France is at present obliged to fight. It is true that history tells us how reaction renews itself in that country after some great military disaster, but it is wont to be of but short duration; not even that which followed Waterloo, though, perhaps, the most unrestrained, was relatively long. Notwithstanding this, whoever takes an interest in the destinies of civilization and of liberty in Europe, must desire that this noble nation should show itself what it really is, and come out of the precarious state which leaves it a prey to the most miserable passions; and that, re-entering the paths of order and of social progress, it may extinguish the insane hopes of those in Europe who still reckon on reaction. No one can fail to see that the reaction which ferments in France is the same which spreads its snares in nearly all other nations, and which wallows in blood in Spain, where the struggle is one of social principles rather than of political ideas; it is the great struggle between liberty and absolutism, between the new right and the old wrong.

We cannot mention Spain without feeling pity for a nation as unhappy now as it was formerly fortunate and powerful; and it is equally natural to wish that no Power, for any motive whatever, should attempt to interfere in the internal disputes of a nation whose susceptibility is proved by history to have always equalled its heroism.

Whatever may be the results of that unhappy civil war, Europe is bound to leave the Spanish nation to determine by its own forces its political development, and the form of its internal organization. Foreigners have ever met with a bad reception from the Spaniards, even when fighting for Spain. The *Times* lately very opportunely recalled to our

remembrance the experience of the Duke of Wellington and of Sir de Lacy Evans.

The Government of Madrid shows sufficient faith in the national forces; the Minister of Foreign Affairs, in a recent diplomatic circular, said to all Europe, 'Fanaticism and despotism combined have never prevailed against the Spanish nation; their triumph, even but for a time, is impossible, when from generation to generation we fight against them with ardor and constancy. . . . All the forces of the rebels will be useless now as in 1839, as in 1849!'

The Ministry which has lately taken the reins of government, at the very moment when the danger of an intervention seemed most threatening, hastened to repeat that its foreign policy would be directed to ensuring the support and friendship of European nations; but that it would not approve of any foreign intervention offensive to the feeling of the national independence.

A warning of another kind, but equally important for preventing any idea of intervention, should be the conduct of Russia in the question of the recognition. We cannot suppose that the refusal of the Cabinet of St. Petersburg to comply with the invitation of the great Chancellor of Germany, when all the other Powers of Europe adhered to it, had not been well thought over, or had had but a light motive, such as would be, for instance, a mere difference of opinion as to the time, the form, and the more or less opportunity of the recognition. Such an explanation, so easily accepted by some journals, especially German, cannot contain the real motive for which the Russian Government did not fear to put itself, in a completely political question, in full opposition with the friendly Government of Berlin. At St. Petersburg, like at Berlin, the meaning, the value of the recognition was well understood. 'A greater service is rendered (said the *St. Petersburg Gazette*, on the 5th of August) to the cause of Spanish Liberalism by the recognition of the Government of Marshal Serrano than by an armed intervention.'

VI. The rapid glance we have given at the political state of Europe, and at some of the questions still requiring a solution, will suffice to convince every

impartial mind that the horizon is far from cloudless. The reasons for coming to a conflict have, in some degree, altered in the period which Europe is traversing, but they are none the less deep and strong. It will no longer be the theory of European equilibrium which will influence the cabinets and endanger peace, as that theory used formerly to be generally understood, and as it was even lately stated by M. Thiers, when he denied Italy and Germany the right of forming themselves into a nation; neither, perhaps, will it be the policy of intervention, fallen into discredit by the unhappy experience of the interventions of the Holy Alliance, of that of Russia in Hungary in 1849, and of other later ones; it will not be the mere ambition for conquests, already condemned by the verdict of progressing civilization;—but the historical rivalry, the antagonism of races and nationalities, are, and will every day be more, the threatening cause of conflicts. For the wars waged by cabinets have been substituted struggles none the less terrible, although prepared nearly independent of the action of the Government. The rivalry between France and England has been succeeded by that between France and Germany; and already one can perceive, looming in the distance, an almost certain struggle between Germany and Russia. As we have already said, the germs of the latent hostility between the two races have long existed. We cannot say with certainty by what spark the conflagration will be lighted, but it may be well foreseen that the conflict will be one of the most terrible the world has ever witnessed.

We must not forget that these two great military States, upon which the peace of Europe greatly depends, are free from all Parliamentary control. The policy of England, the only country in which Parliamentary institutions are a tradition and a reality, proves how such a *régime* can be an obstacle to the abuse of force, whenever it is so deeply rooted and sincerely practised as to offer serious guarantees against the will of the executive power. It is very different in the German Parliament; the law which was passed some months ago leaves no doubt in this respect. Parliament has for seven years given up all right of dis-

cussing the annual military contingent, which means that it has renounced all control in the matter. This is all the more serious in a State like Germany, where the military influence has so long prevailed, and where the conviction already reigns that they must keep by force what was won by force. 'The conquest of Alsace-Lorraine' (said the Minister of War, when discussing the military laws) 'will oblige the nation during fifty years to live on a footing of armed peace.' The same general, Moltke, completed the idea with the following remarkable words:—

'We have acquired the respect of all, and the sympathy of none. In Belgium you will find the greatest sympathy for France, little for Germany. Holland begins rebuilding and fortifying her line of defence against inundations. In a pamphlet circulated in England are described the consequences of a landing which would be made not by France, but by Germany. Denmark thinks it necessary to increase her fleet, and fortify her landing points in the island of Iceland, as she fears a landing of the Germans. The intention of conquering the Russian Provinces of the Baltic, or of annexing the German population of Austria, is likewise attributed to us. France, too, the most interesting of our neighbors, is forced to reorganize her army.'

This, so far as Germany is concerned. As to Russia, no one is ignorant that the army, like everything else, depends on the absolute will of the sovereign. After the Crimean war Russia greatly increased her means of offence and of defence. Under the direction of Todleben her fortifications were rebuilt, and Poland was transformed into an immense advanced bastion, penetrating into the very centre of Europe. From that war Russia learnt that the Eastern Question can be solved only in the West of Europe; and that it is necessary, above all things, to neutralize and destroy the forces which may oppose themselves to the attainment of her ends. The rupture between France and Germany was accordingly most favorable to her, as would be also a rupture between Germany and Austro-Hungary. Russia cannot fail to perceive that Germany might one day become the ally of Hungary to close up the road to the Danube and to Constantinople; and that Germany herself might at any moment find it to her interest to bring Poland to life again, in order to thrust back Russia towards Asia.

The emancipation of the serfs—millions of human beings who counted for less than nothing—whom the last twelve years has been transforming into free citizens and small proprietors; the conscription lately decreed, which inures to military service all classes of the population; the immense network of railways organized with admirable activity in these last years, with the special view of facilitating strategical movements; everything, in short, proves that Russia feels she has a great part to perform in the events which will take place at the end of this century, and accordingly prepares herself energetically.

Heaven forbid that before the fatal day of the collision between Russia and Germany should arise the two Northern Powers should think of coming to a mutual understanding for accomplishing between them some enterprise in the East or in the West of Europe! Not long ago the *Augusta Gazette*, in an article which was thought to have been officially inspired, in speaking of the East, reminded us that 'never was the situation of Europe more favorable than at present for Russia and Germany's accomplishing,

without impediment, the civilizing mission of delivering the populations of Greek religion and of Slavonian race in Turkey,' and added:—'If Germany and Russia should wish to solve now the Eastern Question, no one could prevent them; these two Powers could change the whole map of Eastern Europe, not only in the parts which form the groundwork of the Eastern Question, but also in those of the Upper Danube, which have a part to play in the definite solution of the German Question.'

In any case, it is certain that since the right of conquest was revived in Europe, since the moral law has been broken—by which the interest of each particular State finds a limit in the general interests of Europe,—new alliances are required, capable of restraining those among the great Powers which, conscious of their own strength, might be tempted to take advantage of it; it is necessary that, before the danger approaching us from the East should become more threatening, the Western Powers should lose no time, but come to an understanding, in order to be ready and united.—*British Quarterly Review*.

ON THE DISPOSAL OF THE DEAD.

THE difficulties and inconveniences attendant on the preservation of lifeless bodies, and the respect and reverence generally allowed to be due to them, not to mention a sincere regard on the part of the survivors for their own health and comfort, have given rise amongst all nations to a firm belief in the necessity of erecting some party wall between the living and the dead. There are indeed secondary causes of tombs and sepulchres which have also contributed to the establishment of this creed, such as devotional feeling, legal enactment, and the force of custom. Again, among a certain class of anthropophagi, who consider, with Wordsworth, that "woman," and man also, is "a creature not too bright or good for human nature's daily food," there is the jealous dread of a friend or relative being found and eaten after death by some detested member of a rival tribe. There is, too, that tender seed of affectionate regard which, budding

somewhat late into panegyric flower in the obituary of the *Times*, can burst into full expanse of bloom only on the marble tombstone. This is sown by those who are for establishing their character of generosity by eulogizing, when dead, people whom they have reviled on every possible occasion when alive. Lastly, there is that desire, almost, however, too rare to be regarded, of such heart-broken mourners as are well content to air their vanity and advertise their riches by the magnificent mausoleums of their dead relations. Perhaps, however, the chief cause—notably in the embalming of the Egyptians—is that fond hope of man never to die, of mortality to put on immortality, which would not allow even the body to fall into dissolution; referring to which says Pliny in his heathen speech, *Quæ malum ista dementia est, iterari vitam morte! queve genitis quies unquam, si in sublimi sensus animæ manet, inter inferos umbras!* Such a credulity,

he adds, doubles the pangs of destruction, and takes from us the benefit of Nature's best boon—Death.

One animal alone, complains the compatriot of Catullus, is vexed with unbounded desire of existence, one animal alone with superstitious considerations of futurity, one animal alone with the care of burial. He commends the practice of the Hyperboreans, whose homes are in the woods and caverns, amongst whom there is no sickness, in whose disposition discord is unknown. These die simply from satiety of life. Crowned, and having feasted, they leap from some lofty rock into the sea—*Hoc genus sepulture beatissimum*—the most blessed burial in the world. Neither he nor the indifferent Lucan would have cried, “Ah, my brother!” or “Ah, his glory!” had he been one of the subjects of Coniah, when Jeremiah prophesied the burial of that monarch with the burial of an ass.

Ulysses held not the opinion of these; at least as he appears in the *Hecuba* of Euripides, where he says that during life a very little would suffice him; but that, after death, he wished for a very honorable tomb, inasmuch as that favor would be much more lasting. But the Cynics agreed with Pliny in treating all care of the dead with contempt. One answer of Diogenes, when interrogated about the mode of his interment, is a curious instance of philosophic unconcern in that matter. But this weakness of human nature is one among many which philosophy has found it not easy to eradicate. It has existed from the creation of those gigantic barrows of Stonehenge on the Salisbury plain, and other vast pyramids—“works of Memphian kings”—which stand in their still loneliness, defying the force of Time on the borders of the Nile, to the heaping up of the little hillock of yesterday in our churchyards, the cairn, tumulus, or barrow of many yesterdays in many lands, with its headstone bright and new from the hands of the mason, telling the legend which will be so soon illegible, with weeds. The heathen body was alike averse to dissolution, entered alike its unavailing protest against conversion into fleeting ashes or crumbling dust; but its knowledge of futurity, unenlightened by revelation, was as the knowl-

edge of an infant in the womb concerning this world, and the pagan only possessed some such poor argument as that of Garosse for his belief. “The most brutal of all brutes,” says the learned Jesuit, “instructs us in the doctrine of immortality, for the pig pushes always forward, never contented with the present, but urging the earth with his nose, cries in his own language *Plus ultra*.” Such is the sentiment and the voice of Nature.

“To me, indeed,” says Cicero in the second book of his treatise *De Legibus*, “to me, indeed, the most ancient form of sepulture seems to be that which Cyrus adopted.” This king, according to Xenophon, told his sons not to set him, when dead, in gold or silver, but as quietly as possible in earth, the nourisher and producer of all things good and fair. Those, indeed, who come unto her as a last city of refuge she will in no wise cast out, but receive them, rejected by all the world, in her wide bosom, with the true and unselfish love of a mother towards her children. Yet even from earth’s tender arms will men tear, like wolves, what was once their enemy, as Sulla unearthed Marius. Fearing, perhaps, a like fate for himself, the first of the Cornelian race commanded his body to be burned. No such fear presented itself to him who blessed the men of Jabesh Gilead for their burial of Saul.

The Egyptians considered fire as an animated beast, eating everything it seized, and after all its food was swallowed dying with what which it had devoured; therefore they did not burn their dead. The Egyptian physicians embalmed Israel—though we are told Jacob was afterwards interred in that part of Abraham’s landed estate known as the field of Machpelah, for which he pleaded so pathetically with the sons of Heth, in order that he might bury his dead out of his sight. The manner of embalming is described fully in the “Euterpe” and by Diodorus Siculus. It was shortly this:—The dead person’s female friends, supposing him to possess them as a man of property, having disfigured their faces with dirt, ran about in public half naked, with dishevelled hair. Arriving eventually at the embalmer’s shop, they were shown there samples of embalmed models, just as an enterpris-

ing wine-merchant of the present day offers you samples of his excellent or fruity, or full-bodied, or the Reverend Sir Charles Jodrell-recommended, madeira. These samples, minutely described by Herodotus, were ticketed at different prices, and the disconsolate made such a selection as was suitable at once to their sorrow and their circumstances, combining doubtless, in the majority of cases, economy with emotion. These accordingly acted thus; but the man who made the first gash with a sharp *Aethiopian* stone for the sake of disembowelling the dead had a hard time. No sooner, says Siculus, had he done so, than he was pursued with curses and missiles, for the Egyptians think such a man worthy of hatred. Necessary to the operation as a pantaloons to a pantomime, and rewarded, like that unhappy artist, for his necessary action by the ingratitude of insult and injustice, the reflective mind naturally asks with wonder, "How could this cutter or *paraschister* be procured?" But a solution of the difficulty will doubtless be found in a consideration of the accursed love of gold. The dead was returned to his friends in a box made in his own likeness. He then became an honored though somewhat silent guest in the house of his survivors. The bloodless shadow shut up in the scented wood or stone shard henceforth the fortunes of those who were once its fellows; it failed not to attend them both at bed and at board, and followed the family who had gone to such expense in its interest, cleaving to it as Ruth clave to her mother-in-law. But to every rule there is an exception. There was one also to this otherwise inviolable attachment. An embalmed parent was not only an ornamental article of furniture, a memorial of the transitory nature of human existence; he was, alas! also a satisfactory security to a money-lender. A fast young Egyptian might borrow a considerable sum on the body of any one of his deeply regretted relatives, supposing of course that he or she had been embalmed in a highly respectable manner. It is almost needless to say that respectability and riches were, even at that early period of the world's history, in many respects synonymous expressions. Great dishonor, however, was attached to anyone

who did not redeem this kind of pledge at the earliest opportunity. *Tempora mutantur!* Not a pawnbroker in the present age could probably be found willing to lend even a sixpence on such a deposit. But the Egyptians held their dead in high esteem. They were also a very susceptible people: on the death of a cat they shaved off one of their eyebrows. They also introduced, it is said, the black dress, which represents, among us, sincere sorrow so well that it has usurped the name of "mourning;" for which folly of fashion Mr. Jay ought to be especially joyful, although it is not, unfortunately for that gentleman, now the custom to extend our sympathies so far as to wet expensive crape with warm tears for crows fallen asleep, or to purchase a suit of inky raiment for a deceased fish, as we are told by Macrobius, Crassus did, who on a day found a favorite lamprey dead in his fish-pond, or stewe, and mourned for it as it were a daughter. He afterwards buried it with the accustomed funeral rites, and when Domitius said, "What a fool to lament a lamprey!" the disconsolate mourner answered, as well as his sobs would allow, "I indeed weep bitterly for this fish, but you shed no tear for the loss of three wives." Thus he with a nipping taunt put that emperor to silence.

The Persians, like the Egyptians, avoided cremation, considering fire not indeed an animal but a god, and thinking it a dishonor to the Deity to impose on him the office of an undertaker. This opinion was shared by Pythagoras, who desired that no mortal should partake in anything divine. But the Persians, smearing over the body with wax, probably with a view to preservation, deposited it in earth. The Magi, according to the certain knowledge of Herodotus, never buried a body till after it had been partially devoured by dogs and birds.

"Of what mighty moment is it to Theodorus," says the philosophic Plutarch, "whether he decays under ground or above it?" Only those, he was of opinion, who retain the fables of their infancy, are affected by a consideration of the manner of the disposal of their dead bodies. As a bone well moistened in vinegar and ashes may be sundered by a thread, and as men easily bend and

fashion ivory which has been soaked in Egyptian beer, but not otherwise, so such a consideration can only wound those whose minds have been long steeped in ignorance and effeminacy. Such an one must Mrs. Oldfield have been, the "poor Narcissa," who, according to Pope, thought it odious to be buried in woollen, and wished for a charming chintz and Brussels lace to adorn her lifeless carcass. She is said to have been handsomely dressed in her coffin by her own direction. The poet's "Betty, give this cheek a little red," is but an exact reflection in too many instances of that idle vanity in woman which would cater for admiration at the very point of departure, and continue its lifelong custom and delight in deceiving mankind even after death.

The Scythian kings were, according to Herodotus, buried in a square grave, but their bodies were first stuffed with parsley and other ingredients, and then, sewn up and well waxed, were carried about in a wagon. Politeness required hard things of those whom the dead body honored with a visit; each man was expected to chop off a piece of his ear, to lacerate his nose, and pierce his left hand with an arrow. Accordingly this visit usually created, to borrow a flower from the newspapers, "a gloomy sensation in the neighborhood." As the courteous but ill-educated German host at whose house one of the French kings, with all his pomp of retinue, had been staying, said, wishing to leave a last lasting good impression on the monarch's mind, *Ah, Monseigneur, je n'oublierai jamais le mémoire de ce jour*, so the mutilated Scythians were little likely to lose the memory of the gracious visit of their king. The royal body was then placed in its grave and a roof erected over it, and by its side, as companions *per iter tenebris osculum*, were deposited the firstlings of the monarch's *ménage* in the way of domestic utensils, and, previously strangled, his groom, his lackey, his messenger, his cupbearer, a concubine or two, and his cook; then fifty young men, his chief favorites, were impaled on fifty horses, and left to guard the grave. Altogether this royal interment must have been a matter of considerable expense, and one would imagine caused some little especial excitement amongst

those whom the king delighted to honor. The burial of a private citizen was comparatively simple. His friends placed his body on a cart, and made a round of calls on all his relatives. It was incumbent on these to set out and prepare a great feast ready for his arrival, of which they expected him to partake, but on his failing to do so, those who brought him eat, drank, and made merry in his stead. After being carried about in this way till his presence was disagreeable, he was ultimately interred. But the exequies of some of the tribes of the Scythians were yet simpler. Having suspended the deceased body on a line, they left it. Others, combining duty with convenience, dined on their dead. About these, Lucian determines that they were not studious of friendship, drawing this conclusion from other circumstances, but especially from this fact, that they were accustomed to eat their ancestors. The famous Ilicet, "the end of joy, the end of sorrow," as Swinburne says, whose poem with this title has been so grievously misunderstood, would correspond to some post-prandial benediction of these Scythians, if they indulged in any, or grace after meat. The Scythian cart is an exceptional feature, and may have been the origin of our "hearse," or *castrum doloris*, though the original meaning of that word seems to be an ecclesiastical chandelier, or triangular harrow (Fr. *herce*), on which candles were placed *à discrédition* during the funeral obsequies.

There is no great difference in the funeral ceremonies of the various peoples of India. Among the Maharratas, who may be chosen as a great type, a frame of wood, on which to lay the body, is bought at a market, as soon as any person has died, with some eight yards of white linen to wind up the corpse, and cow-dung cakes, for fuel, and an earthen pot. The women in the meantime sit watching the corpse and weeping in the dim light of a lamp which is kept burning ten days, the usual time of the duration of mourning. The men assemble on the veranda. As soon as the body has been placed on the frame, a basin of water is thrown over it, and the male relatives shave off their moustaches. A species of vegetable called basil is then put on the body,

which is also sometimes adorned with flowers. Then the chief mourner leads the procession, with a sherd of the earthen pot containing fire in his hand, followed by four supporting the bier. The general company follows, bare-headed and bare-footed, but no women or children are ever present. Those who carry the corpse repeat continually the sacred name of their god Rama. On reaching the burning-ground, which is called the city of gold, from the yellow fringe of the flames, men are immediately hired to build the pyre, the body is placed on it, and long wooden matches are applied. When the sharp detonating explosion of the skull is heard, they say the deceased has reached the place of beatitude; they then with one accord crack a cocoanut. The bones are collected and thrown into the Ganges.

In Thibet there is terrestrial and celestial burial. In the latter a body is burnt and the ashes given to friends, in the former it becomes the food of dogs and birds. There is for the most part a quadrumanous indifference amongst the Thibetans, when not disturbed by the Lama priests, red or yellow, as to the disposition of their dead.

In Otaheite the common folly of expectation of continued duration, and the desire to avoid the night of nothing, has led to embalming, as in Egypt. Each member of the deceased's family contributes to defray the expenses of this operation. As this people, like the Japanese, entertain a serene disbelief in any future state whatever, it cannot be charged with the absurdity of the subjects of Pharaoh, who preserved bodies for reanimation without brains. The process is shortly this. The dead, being cleaned and washed, and stuffed with antiseptics, is adorned with sumptuous apparel, and reclines *en grande tenue* on a sofa as if alive. So in this land it is literally true that every house has its skeleton. It is then furnished with choice provisions. Several scenes are acted before it in which it was once wont to delight. Favorite books and beautiful girls are introduced for its inspection. The sweetest music of Otaheite satisfies its ears. The gums and ointments in its body furnish it with the daintiest perfumes. Its head is circled

with a coronet of flowers. Occasionally, as in Scythia, it makes a round of calls, visiting its most intimate friends; but this pleasure is transitory; it is soon brought home and placed in a corner. There it leans against those who have gone before, with its dry, dusty, and bloodless face, which sometimes demands tears, but never drops them; and there—with mouth wide open, but not for song—it moulders gradually away, a ruin of old mortality and the forgotten times of a passed world. Soon it becomes a question as idle as those of Tiberius concerning the female appellation of Achilles and the song of the Sirens to ask its name. So the dream of diuturnity in its former tenant ends, and it serves but as one more sad proof that it is feeding the wind and ploughing the waves to hope for any patent of security against oblivion under the sun.

But this vanity of affecting integral external conservation has not been without good fruit. It has afforded harmless amusement to antiquarians in ticketing sarcophagi at their own discretion, a gentle stimulant of fearful curiosity to the visitor at the British Museum, in which the mummies are the chief attraction, and valuable specifics to the faculty of former times. We may believe that Francis I. carried in his pocket as a charm a piece of Pharaoh; but when we are assured that the ancient Saxons mixed Mizraim with their meat, we are forced to conclude that the writer has mistaken for "mummy" "mum," a composition of wheat and ale. After all it is as well, perhaps, to subsist in books as in bones, and there may be no better bitumen than the virtue of Seneca or Epicurus, no myrrh or salt more antiseptic than the wit of Lucian or Bidpai.

The disposal of their dead by different nations, ever since that disastrous water-burial of forty days, has been generally more or less affected by the diversity of their religious beliefs. The libations which the Romans poured over the ashes of those on whom they prayed that dust might rest lightly, not, as Martial says satirically, lest the dogs should find a difficulty in unearthing their bones, were supposed to nourish their subtle shadows, which wandered by Co-cytes, named of lamentation loud, and Phlegethon, whose waves rolled torrent

fire. If a man died and left none to perform these sacred rites behind him, it was thought that he found hunger a sharp thorn, starving in the city of the dead. The Romans, as many other nations, gave wages for weeping to women styled by them *præficiæ*. These "so-phists of lamentation," as Lucian calls them, first countenanced that weeping—for "women must weep," as Mr. Kingsley assures us—which has now become so fashionable. These led the song of sadness and commenced, for sufficient considerations, that cutting of hair which the dead held dear. Of little consequence was it to these, as little indeed as to those laughable if not pitiable merchants of sorrow whom we now call mutes, whether the condition of the dead was better or worse; they contented themselves with honoring the custom which brought them hire. These praised the good and evil indifferently for gain; but they delivered an illustrious example, inasmuch as they praised only the absent, and never themselves.

There is a pretty fable of Æsop on this subject of a rich man who had two daughters, whereof one having died, professional mourners were hired to make lamentation. Then her sister said, "Alas for us and woe to us wretched ones, for this is our own familiar sorrow, and we cannot sufficiently weep, while those to whom it is of no concern beat their breasts thus and so passionately bewail." But the mother, out of long experienced time and wisdom, gave her this present counsel, "Wonder not, my daughter, if these weep for wages."

The religion of the Romans induced them to put an obol, a coin of the least value, into the corpse's mouth, as pay for Charon, with his beard of snow and eyes of flame, the unamiable ferryman of hell. Nothing can be done, it seems, even there, without money. It is difficult, however, to determine what divine voice declared an obol to be the proper payment for being punted in that light, leaky, lurid, and ferruginous pinnace across the Acherusian marsh, too deep to wade through, too broad to swim over, or for the spare ghost of Lesbia's lamented sparrow to pass by flying. Nor has the torch of inspiration as yet shed any light on the nature of traffic, if traffic there be, in the world below, whether the obol

of Ægina, of Athens, or of Macedon was current in that market of everlasting twilight. The bodies were washed which were about to bathe in Lethe, and precious ointments, which might have been sold for much and given to the poor, were wastefully consumed on carcasses already passing into corruption and a stink. The season's finest flowers fell on their upturned faces, just as in some villages now the perfumes of lavender, marjoram, and rosemary are married to rottenness and putrefaction; and they were finely attired in rich and fashionable raiment, lest they might catch cold on the journey, or be discovered naked by the three-headed and decent Cerberus. For flowers roses, when they could be gotten, were always preferred; they fleeted fast, but their brief existence was perhaps as dear as the dry and dusty immortality of the *immortelles* in Père la Chaise. These ceremonies were accompanied by that noise of women's wailing which destroys all the majesty of grief, by showers of tears which, according to Chrysostom, clear the air of sorrow, by beating of breasts, and tearing of ensanguined cheeks and valuable raiment and hair unbought, by defiling the head with dust, and by a general display of grief which made the living more pitiable than the dead; for those wallowing on the floor dashed their faces against the stone; but these lay silent and decorous, sober and dignified, crowned with their diadems of flowers. After the body had been fired with averted face the word "Vale" was uttered, in which we must suppose regard was had rather to custom than to etymology. This was cried thrice with a loud voice, but not even the voice of Stentor can wake the dead, like the kiss of the fairy prince in Tennyson's tale.

It is very well for poets to sing that the dust of those who differ in dignity is alike, and for parsons to improve that truth with less forcible if more lengthy language. There has been always, and it may be said there will continue to be, so long as human nature remains the same, one grave for the rich and another for the poor—a large pyre for the generation whose eyes are lifted up, and a little one for the lowly and meek. Those at Rome were buried in the Puticulæ, beyond the Esquiline gate, a por-

tion of which being afterwards bestowed by Augustus on Mæcenas, was converted by him into a garden, where a man might enjoy a walk in the sunshine, without seeing any sad *memento mori* in white and mouldering bones. But here at one time a wretched slave used to carry the body of his fellow, packed in a cheap narrow coffin, to their common burial-ground; here the criminal suffered the reward of his crimes, and rested in a place not to be disturbed by any legislation of this world; and here wolves and Esquiline birds were requested to fight among themselves for a rich repast afforded by the unburied members of those old ladies who had been unfortunate enough to excite Horace's indignation. But the nobles, the blue blood of patrician Rome, lay far apart from this vile contaminating herd. The wonted fires of hatred against the plebeians lived safely in ashes which rested so distant from the Puticulae as the Campus Martius. It has been affirmed that lawyers were honored by burial here for having kept the citizens in healthful concord while alive, but the reason given is incomprehensible, except as a stroke of lively satire.

The burial-grounds of St. Giles and Westminster Abbey are not more widely distinct with regard to their use as places of interment than were the two Ceramici in the city of the violet crown, if Suidas may be believed.

So, too, the Hebrews made a difference among those who called corruption father, and mother and sister the worm. Josiah, in his holy zeal, brought out the goddess Asherah, or "the grove," as it appears, somewhat darkly, in our version, unto the brook Kedron, and there burnt her; and, not contented with that, afterwards stamped her small to powder. He then cast this powder on the "graves of the children of the people." By this Hebraism we must understand the common burial-place; though why the poor people should have been insulted with this casting of unholy dust in the faces of their dead is not clear. Urijah, too, we are told, was cast into the graves of the "common people," a phrase which is expressed in Hebrew by the same words which the exegetists have before, somewhat capriciously, it would seem, translated "children of the people."

But Uzziah was buried with his fathers, in the field of the burial which belonged to the kings; and Joab in his own house in the wilderness. The Spartans seem to have buried their dead within their city wall, after the institution of Lycurgus, who wished thus to accustom the Lacedaemonian youth to honor death, but not to fear it. In the beginning of the Roman State every man appears, like Joab, to have been interred in his own house or garden, a circumstance to which may probably be ascribed the origin of the worship of the lares. The law of the Twelve Tables, however, forbade burial within the city. The idea of choosing a church as a place of burial seems not to have existed in any nation of antiquity. Corpses were not by the Greek or Roman or Asiatic suffered, through the pride or superstition of their former occupants, to decompose in or near the habitations which were consecrated to their gods. A window to this practice was opened by Constantine, who is said to have been buried in the Church of St. Peter at Rome. The custom was forbidden by Valentinian and Theodosius. Gregory the Great gave as a reason for burying people in churches the hope that their relations, looking continually on their graves, might be led to offer up prayers for them. *Orate pro anima miserrimi peccatoris* has brought no little profit to the ecclesiastical purse. In 1775 there was an *édit du roi* in Paris against the abuse of interment in places set apart for prayer. But reason and law are alike of little avail when pitted against inveterate custom and gross ignorance. The congregation continued to give humble and hearty thanks over the bodies of their friends and relations; corruption and magnificence walked side by side; and, mingled with the heavy perfume of the sacred incense, rose the foul, pestilential vapors breathed out of the wet earth in the sunshine after the rain.

In England we have early instances both of cremation and interment. The ancient Britons were indifferent whether they concluded in water, after the theory of Thales, or whether, after that of Heraclitus, declining a material degeneration into mud, they shut up in fire, and left behind them only a few ashes as the material keepsake of their having been. It was to them a matter of unconcern whether ashes returned to ashes or dust to dust, whether their bones, like those of the

King of Edom, were burnt into lime, or whether they lay buried in the land of worms. The Druids, says Pomponius Mela, taught that souls were eternal, and that there was another life after death, in order that men might fight with greater courage, not considering the be-all and the end-all here. To countenance this idea they burned and buried with the dead such articles as are but of use to the living. A strange assortment of utensils has indeed been found in urns and coffins, the appurtenances of affectionate superstition and blind solicitude—coins, combs, nippers, lamps, lachrymatories, and here and there a jew's-harp, which the relations of those gone before imagined they might require after their limbs had been loosened by lasting cold, and they had left all the passes of this world to accompany Rabelais in his search for *le grand peut-être*. But the presence of these objects, of use or interest to the living, was inimical to the repose of the dead. Trajan had but little chance of resting in peace in his urn of gold. These deposits, frequently of great value, afforded a rich prey to other robbers than the learned Dousterswivel. From our religious point of view supererogatory, they have yet afforded much valuable scientific information.

The custom of burning seems to have ceased with paganism. The Saxons having been blessed with the light of the Gospel, suffered the light of their funeral fires to be blown out. Of all the heathen nations the Danes retained the custom of burning the last, being the last to become Christians. Some of their urns, as in other nations, are larger than others. These were intended to confer greater dignity on the contents. The ashes of a herdsman, however, weigh little less than those of Hannibal, which Juvenal estimated at a few ounces. A very tiny pitcher was too large for him dead for whom alive the whole world was too small. The larger urn but supplied the deficiency of weight in the dead, as a larger house supplies the deficiency of worth in the living.

Other animals than man practise sepulture or cremation; not to mention that illustrious bird the phoenix, the little busy bee is wont to carry out its dead, and many of its fellows accompany the exequies as mourners. There is a tradition, of which we leave it to the natural historian to determine the truth, that ants, those

examples for the slattern, enclose their dead, grieving bitterly, in husks of grain, just as humanity casts its dead into a coffin. For the children of the people, or the common herd of ants, there is, says Plutarch, a cemetery especially appointed. Cleanthes, though he denied that other animals than man were endowed with reason, says that he once saw some ants travelling in a direct line, and wearing a narrow way to a neighboring people, supporting the dead body of one of their own on their shoulders. When they reached the territory of their destination they were met by several outlying sentinels, who having held a colloquy with the heads of the advancing host, descended to their own hollow home to communicate with their rulers, and after a while reappeared. This descending and ascending of these small angels was repeated several times, and it may well be supposed that they acted an intermediate part in the negotiation of some unforeseen difficulty which an evil destiny had called into being. At last these brought out, though not without extreme difficulty, a worm, apparently as the price of the redemption of the corpse; for as soon as this chattel had been received by the other party they left the body of their dead friend and in all haste departed. Such acts as these, and the preliminary biting of corn, lest the wet ground of winter should cause their grain to grow; their civil habit of giving place to any burdened traveller on their highway; their endurance of toil and their exemplary prudence, have rendered these insects an image of goodness—a tiny drop of clear water in which is reflected our world of virtues. An elephant, says Ælian, however urgent the mission on which he travels, if he meets with a dead brother by the way, casts with his trunk a branch, or a little earth, or a particle of wandering sand, on his unburied bones as a holy rite, and to avoid any accusation of impiety, which these classical beasts consider themselves liable to when neglecting to comply with such funereal ceremonies. Therefore he thrice throws on him the dust or the broken bough, and goes on his way in haste, not having dishonored the common end of all.

Grotius is of opinion that no praiseworthy deed was ever done by man without God having placed the example and pattern thereof in a brute. The silkworm,

which encloses its inconsiderable and shrunken body in a soft and silken winding-sheet of flossy gold, may have given the first hint to the embalmers of ancient Egypt in their endeavors to render the bodies of their dead like the shoes of the holy people in the wilderness. The primitive method of burial among the Garamantes, which consisted in scratching a hole in the sand and putting the dead in it, without more, might have been taken from the observance of rabbits and foxes and other troglodytes, who, like the friars in "La Favorita," dig their graves during life, and may be imagined exhorting one another with sentences of a like kind —*Fratei! scaviam l'asilo in cui s'addorme il duol.* Martial tells little tales about an ant, a viper, and a bee, each shut up and shining in amber, like Æthiopian corpses in crystal; "the bee, I suppose," says the poet, "wishing this tomb of nectar in return for its life of labor." These buried with such a golden burial in the frozen tears of the sisters of Phaëthon require no *Siste, Viator*, on their grave—a legend which has been ingeniously transferred from the heathen highway to the Christian Church, where it bewilders with its mysterious significance a congregation scarcely, except in a metaphorical sense, to be called "travellers," and who will certainly stay, if decently educated, till divine service be concluded.

Martial's tales may be regarded possibly as idle fables, but few will venture to question the veracity of St. Jerome, who gives a yet more startling account of interment by brutes in his life of the holy Paul of Thebes, the first Christian hermit. The blessed Paul, being now 113 years old, was bidden in a dream to take a journey into the desert to meet one still holier than himself. On his way, with his face set against the burning sun, he finds a hippocentaur, and having crossed himself inquires the residence of his fellow-servant. But the hippocentaur, gnashing out upon him with his teeth something barbarous, and breaking rather than uttering speech, distorted his mouth, horrid with bristles. Nevertheless he indicated the way by the extension of an off fore-foot. Jerome, not wishing to lead any one astray, professes himself at this passage of the narrative uncertain as to whether this animal was the Devil, or one of the monstrous growths of the wilderness. The

blessed Paul eventually finds Antony, the object of his search, a man of gravity from his youth upwards, and a venerable athlete of the Church, and then expires without being desired. Antony, thereupon, regrets that he has not a spade by him to dig a grave. Being in this difficulty, and reflecting that it was three days' journey to the nearest monastery, behold, two lions run out suddenly from the interior with their manes floating over their necks. *Quibus aspectis primo exhorruit*, says St. Jerome, which indeed was very natural. Afterwards, reflecting on the Deity, and fortified by a prayer, he cared for them as little as a fox for a couple of turtle doves or two young pigeons. The lions in the meantime advanced straight to the body of the blessed old man, and there stood wagging each his tail, and roaring so that one might know they were lamenting as far as their nature allowed. They then commenced digging up the ground with their feet at a little distance, and viewing with each other in tossing out the sand, they soon made a hole large enough for a human body. Then, as it were asking hire for their labor, they came up to Antony moving their ears, with dejected necks and licking his feet and hands. Antony immediately knew that they sought his blessing. And when he had given it they departed, and so Paul was buried. This history, if it were lawful to compare sacred things with profane, might be likened to the familiar legend of the Babes in the Wood, whom pious Robin Redbreast covered with fallen leaves, a tomb as satisfactory, and perhaps more widely celebrated, than that of Ninus or Ozymandias.

The fashion of interment of some nations is from our point of view extremely eccentric. The Massageta wife did not, for instance, wait till her husband, having fallen sick, was dead, but mixing him with a little mutton made her meal. The people of that nation said that it was far better to be devoured by women than by worms. Moreover, if their relations lingered, they charged them straitly, and sometimes besought them with tears in their eyes, not to delay, as their flesh was by such idle folly likely to become deteriorated. Valetudinarians were probably rare in that country, and Barry's Revalenta Arabica would doubtless have hung on hand. Nor was it of any use for an in-

valid to deny with an oath that he was sick. His relatives, careless of his denial, nevertheless arranged the banquet. Few, it is recorded, of the Massagetae reached old age. Other nations, less impatient, waited till all was over, and then, having had the head gilt, devoured the body. Others bury their dead in the bowels of beasts. No Greek dormitory was to be discovered in their metropolis, no Hebrew house of the living, no Christian garden or God's acre ; they gave the image of divinity to dogs, God's work to wolves, and Nature's master-piece and the perfection of creatures to crows and jackals.

In this article want of space forbids anything but an allusion to the Nasamones, who buried their dead in a sitting posture, and took the greatest care lest they should die recumbent ; to the Æthiopians, who enclosed their bodies, being embalmed, in a species of crystal, where they are very conspicuous and not in any way offensive ; to the Chinese, who formerly burnt the servants with their masters, but are now content with burning the images of the former, doubtless to the supreme satisfaction of the persons signified, cut in tin-foil ; to Birmah, Mexico, Peru, where the dead are burnt, unless paupers, when, as the process of cremation is expensive, they are thrown into the river with a stone.

But a little larger mention must be made of that tribe of savages in Northern Africa who, if travellers may be believed, sigh and weep when a man is born, but fall to dancing and singing when he dies. This, however, they do less for joy than to conceal sorrow. They soon lay aside tears and lamentations, but it is long ere they subdue sadness and regret. It is considered creditable in women to cry, but in men not to forget. These benighted heathens think it foolish to lament a common condition of nature which, for all they know, may lead to the greatest happiness, and must be an exemption from all earthly ills. Therefore they hire no tears when they burn their corpses ; for they practise cremation, though they also bury them where their land is sterile. There is no ostentation in their funerals, nor any destruction of good cloth or linen garments ; they place nothing about the dead which might be useful to the living, considering it to be an idle waste to do so. Then the body is perfunctorily fired

and the ashes thrown into the air. Those who desire it deposit them in the ground, and the sod rises as their sepulchre, but they despise the high and laborious honor of monuments. After this they repeat some verses suitable to the age and condition of the " person who was," for so in their language they express the dead. As, for instance, if he who died was a youth, instead of lamenting his immature death, as other nations, they say something of this kind, not that they suppose it will be heard by the dead, but that their words may teach wisdom to the living : " You, being at rest, will no longer thirst or feel hunger or any cold ; love and ambition will never trouble you more. You are now exempt from distress and from disease. You have escaped from envy and from hatred, from pain and from fever, from lightning and from tempest, from murder and from death." They say such things as these, nor do they suppose that eyes which cannot see will be saddened with darkness, or that ears which cannot hear will be solaced with panegyric. They ridicule the ceremonies of other countries so far as they understand them, satirically observing of the common practice of binding up the jaw, that it is done doubtless to prevent the deceased laughing at the absurdities which take place at his funeral. But these, having thus disposed of their dead in silence, with the exception of the few words just mentioned, return to their homes, and eat and drink as usual, nor is it necessary for any one to stand by and encourage them to do so by a suggestion that nature will give way unless supported.

" Love," says the lady—bride, concubine, or church, whoever she may be—who speaks in the Song of Solomon, " love is strong as death." In the service of the Solemnisation of Matrimony, the man having taken the right hand of the woman, gives his troth to her to love her only until death parts them. This seems to show, notwithstanding the opinion of the Shunmite, that over love too destruction reigns supreme. Still some, by mingling their ashes, have passionately endeavored to prolong their living union. Thus Domitian ordered his dust to be mingled with that of Julia. There is some shadow of satisfaction to those who have lived and loved on earth in this contemplation of being for ever neighbors in the grave, in

the quiet, silent seat, the lasting house of clay appointed for all men living. The passionate prodigality of Artemisia, who drank the ashes of Mausolus, is feebly represented at the present day by a lukewarm desire which is satisfied by being side by side with the beloved object.

Petrarch, in one of his epistles, complains that the sentiment of piety was so low at his time that scarcely a dozen people could be found true believers. This gangrene was indeed so general that atheism was no longer considered a vice, and most shameless provision was made by wicked men in their wills for the disposal of their body. Some were so lost to all sense of decency and devotion as voluntarily to resign the privilege of interment in consecrated ground, perhaps from a malignant desire to disappoint the ecclesiastical laborer of his hire, and to declare that their bodies should be opened for the advancement of science, and afterwards cast at the roots of an unfruitful tree for the purposes of manure. There is a will of a brutal lawyer of Padua, whose only excuse may be said to be madness, of which these are excerpts:—

(1.) Any one who weeps at my death to be disinherited.

(2.) He who laughs the loudest to be my chief heir.

(3.) The walls of my house not to be hung with black, nor the floor to be covered with it; but on the floor flowers to be scattered, and green boughs hung against the walls. None to put sackcloth on their loins.

(4.) All the pipers, singers, and musicians of the town to be summoned, with all their instruments, and to play their merriest madrigals.

(5.) No priest to appear in sable to sadden the general joy; nor any requiem to be sung, nor *Miserere*, nor *Liberâ*, nor mortuary mass, but only Bacchanalian and erotic melodies.

The evil example spread like wildfire or a drop of oil among men actuated by foul infidelity or a dislike to pay the necessary fees. Another ordered his body to be sewn up in a pig's skin; another wished to be buried in the market quite naked, clothed, as the Indians say, with the points of the compass; another in amber, as the flies, which cause more wonder in their position than in their rarity or richness; another in honey, a disciple of De-

mocritus, Alexander the Great. Another gave his body to the anatomists, saying that Nature teaches us to use the bodies of the dead to preserve those of the living, and that we ought not to honor what she dishonors; another ordered his body to be thrown into the sea, for the benefit of his wife, who had sworn to dance on it. Most of these men honored their own body as little as the beggars of St. Innocent honored those of others, according to Rabelais, when he makes Pantagruel say of Paris, *que c'estoit une bonne ville pour vivre, mais non pour mourir; car les Gueux de Saint-Innocent se chauffoient le cul des ossements des morts.* The legislation of Paris should have copied that of the Twelve Tables, which forbade burial within the city, and also no less wisely the presence of any gold about the corpse except that which fastened its teeth. Another commanded that the tree called Arabian aloe should be planted over his grave, intending an ironical reference to the patience required in waiting for the resurrection.

That sea-burial of him who desired it for his wife's sake would not have suited Ovid, who preferred a less unstable *requatorium* on land. He was unwilling to feed those finny fishes which the fish-eating Æthiopians fattened with their dead. A shipwreck was indeed a matter of mighty fear to the Greeks and Romans generally. The concern of the brave and swift-footed Achilles is graphically described by Homer, when that chieftain found himself about to bulge in the river Xanthus; so the limbs of the pious Æneas were loosened with cold on a similar occasion. Partially this fear was owing to their fancy of flitting a hundred years about the banks of the Styx, to whom *NON facilis jactura sepulchri*, but chiefly to that common error which, investing the dead with the attributes of the living, made them dread being dashed against rocks, and rent by the fierce talons of ravenous sea-fowls. This fallacy was well exposed by Diogenes, who desired to be flung out as dung on the face of the field, and when his friends objected, "Dogs will devour you," answered smiling, "Put, then, a stick in my hand to drive them away."

Eccentricities in the disposal of the dead are rare in England, where, as the bard observes—

Custom slowly broadens down
From precedent to precedent.

In a museum, however, at Manchester, mentioned by De Quincey, is a lady mummy, properly labelled and placed in a clock-case, over the glass face of which a veil of white velvet hangs. Bentham, the celebrated jurist, ordered his body to be dissected and the skeleton afterwards put together, clothed, and the whole seated in a diaphanous house on wheels. He is said to be preserved in this condition, with a stick in his hand, at the present day, in a back room of University College. Inspired by that sad sight, some witty fellow produced what he was pleased to call an anagram on the strength of the change of position of a single letter: "Jeer my bent ham." The jest is deficient, perhaps, in point and polish, but in other respects it is perfect. People have been buried in various positions, with their heads turned to every quarter of the compass, and a world of words has been written in defence of each position. The

advocates of cremation say that one, and not the least, of its advantages consists in its rendering all idle dispute about position unnecessary. Many have been buried standing, sitting, and lying—lying supine or prone—as Diogenes wished to lie in this world turned upside-down, that at the time of the general resurrection and restoration he might be found as flat on his back as a flounder or old Bill Bowling. Some have desired to be buried without coffins, and it seems probable, from the absence of the name of this contrivance in the Burial Service, that at the time of the compilation of that formula it was not in common use. The officiating priest, it will be remembered, speaks invariably of the corpse or body. Others buried in coffins or vaults have desired that the lids should not be soldered down, and that the door of the vault should have the key inside, as if they dreaded the absence, after their long interlude of sleep, of some angel to roll away the stone from the mouth of their sepulchre.—*Cornhill Magazine*.

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SAXON STUDIES.—IV. STONE AND PLASTER.

BY JULIAN HAWTHORNE.

I.

THERE is a kind of ugliness which is practically invisible. It is not ugliness of the grotesque, fascinating, or forcible order; its characteristics are negative and probably indescribable. It is always tinted strongly with conventionality, and has a mildly depressing effect rather than an actively exasperating one: it partakes of the nature of an incubus more than of an irritant. It is an ugliness, in short, which, instead of compelling our eyes at the same time that it revolts them, simply causes us not to see it. There are vast numbers of persons in the world,—good, plain persons, with no piquancy or individuality of aspect,—with whom we may converse for hours or years, looking straight at them all the time, yet never actually seeing them. Their image is formed on the physical retina, but the mind's eye refuses to take note of them; and the consequence is an undefined feeling of dejection, expressing itself, perhaps, in a sigh or even an irrepressible yawn.

I think the sombre humor which is apt to settle upon us after a little acquaintance with Dresden may be traceable to the invisible ugliness, I will not say of its people, but of its houses. They curiously elude our observation, even when we strive to fix our regards upon them. We walk street after street, with all our eyes about us (so we fancy), and yet on reaching home we can not call up the picture of any one among the hundreds of buildings by which we have passed. They are featureless, bare, and neutral-tinted, and present no handle for memory to catch them by. They do not make our nerves prick with anguish and our brows flush, as do the palatial residences in New-York and elsewhere; a little stimulus of that sort once in a while would be healthful. They deaden us by communication of their own deadness, and it is a mystery how living men built them or can live in them.

The best way to get at them is to put them side by side with houses of our own, and note the differences. These differences all begin from the fundamental dif-

ference between the Saxon and the Anglo-Saxon modes of living. They live in layers, we in rows; and when we have analysed all the issues of this variance, we shall have done much towards accounting for things of far greater importance. In some respects the Saxons have the advantage of us. Our city houses are no better than an array of pigeon-holes ranged interminably side by side; the close assemblage of pompous doorways, each with its little flight of steps, its porch, and its twelve feet of-area railings, fatigue the eye. There is a constant repetition, but no broad uniformity. Moreover, the fact that the houses are clothed only in front, and are stark naked behind and at the sides, keeps us in a state of constant nervous apprehension. We do our best to see only the brown stone pinnafores, and to ignore the bare red brick; but the effort is no less futile than it is wearisome. The barenness haunts us, until the very pinnafores seem transparent.

Undoubtedly they manage this matter much better in Dresden. They are as niggard of their doors as though they were made of gold. One door to a frontage of an hundred windows; and instead of a joining together of twenty or more short sections of imitation stone cornices of various designs, here we have a single great bulging, rambling, red tiled roof, covering the whole building; with rank upon rank of dormer-windows and fantastic chimneys figuring against the sky. Whatever its failings, at all events, the house is coherent and conceivable. It has a back of course, but an honest back, such as we are not ashamed to look at. Three or four of these caravansaries form a block; and there is an absence of fussy detail about them at which the harassed New-Yorker may well rejoice. The economy in doors extends itself to door numbers. One would suppose that, let them swell their biggest, these would remain small enough; but they are rigorously decimated by a free application of the alphabet. If the first door in the block is No. 7, the next is not No. 8, but No. 7A, and the third No. 7B, and so on up to C. High numbers are considered vulgar, but letters may be supposed to denote architectural blue blood.

The doorways are flush with the sidewalk; if there are steps, they are within the house-line; and the houses never set back

behind a railing as with us. They seem to have grown since they were first put down, and to have filled out all spare room. The larger houses are built round three sides of a court, with which the front door communicates. But houses in Dresden are under no restrictions as regards ground-plan. Any geometrical figure is good enough for them; and the Royal Palace, already referred to, affords them an example of license in this direction which it would be hard to outdo. The crookedness of the streets abets the eccentricity; and yet the most extravagant sprawler of them all seems more human than our endless repetition of pigeon-holes.

The houses are built of coarse sandstone, quarried from the cliffs of Saxon Switzerland, and brought thence on canal boats. The interior is patched here and there with brick, while to the outside is applied a thick layer of grey or yellow plaster, whose dead surface is sometimes relieved by arabesques and friezes in low relief, or perhaps a statuette or two in a shallow niche. This façade is from time to time oversmeared with a staring coat of paint, causing it to look unnaturally and even violently clean for a month or so, but not improving it from an aesthetic point of view. In the more modern villas, however, which line the approach to the Royal Park, the plaster is generally replaced by a fine kind of stone, dark cream-color, and better as a building material than our American yellow or brown stone. These villas are four-square, detached, two-storied structures, each in the midst of its garden, and surrounded by an irreproachable iron railing. The roofs are either French or hip, slated and regular; the carriage-drive is smoothly paved with a mosaic of black and white; there is a fountain on the lawn; a handsome porch, and a balcony full of flowers. They more resemble the wooden country seats on the outskirts of American cities than anything in England; there is none of the English passion for seclusion and reserve; no impenetrable hedges, no ivy screens, nor canopy of foliage. Everything is bare, open, and visible, and seems to invite inspection, like a handsome immodest woman. We can even look through the plate-glass windows and see the painted ceilings and satin-wood doors.

But it is to the city houses that we must look for traits essentially Saxon. Balco-

nies they generally have, fitted to the drawing-room windows of the successive Etages, and supported on stone cantalevers. Not always trustworthily supported, however; for moisture rots the stone, and the balconies occasionally come down, to the destruction of whatever is on them or beneath them. Meanwhile they are a pleasant refuge in summer; we sit chatting, smoking, and sipping beer among the flower-pots as the sun goes down, and long after the stars are out. They may even be used as supper rooms when the day has been very hot, and the company is not too numerous. If we have lived long in Dresden, it will not discompose us that every passer-by in the street may see how our table is furnished.

II.

Twenty families sometimes live under one roof; and the same front door serves for all. Through it must pass alike the Prince on the Bel-étage, the cobbler in the basement, and the seamstress who lives in the attic. This is a state of things which deserves consideration. A house-door, which is common property, which stands agape for any chance wayfarer to peer through—nay, whose threshold is no more sacred than the public kerbstone! we are democratic in America, but I think the Saxons are in advance of us here. So far as I observed, New Yorkers and Bostonians are as careful of their doors, and as chary of them as is a pretty young woman of her teeth and lips. I would as lief share my parlor with a stranger, as be liable to meet him on my stairway, or to rub shoulders with him over my threshold; especially when his right to be there is as good as mine. There is an indelicacy about it, as if a dozen or twenty people were all to eat and speak through one mouth. The street does not stop outside the house; it eddies into the hall and forces its dirty current up stairs. True, there is another door within, but after we have given up our outworks, few people will believe in the genuineness of our inner defences. The spell of reserve is broken.

This may be esteemed a fanciful objection to the "Flat" system, which, I see, is gaining favor in America on the score of cheapness and compactness. If we will be frank to call such establishments hotels, we may at least escape the evil of grow-

ing to believe them homes. Home is no less sacred a word than ever, though, like other English words nowadays, it is getting to be much desecrated in the appliance; and I fear these common doors, standing always ajar, may let escape many delicate beauties and refinements whose value is not fanciful, but inestimable.

To be sure, hall-porters have lately been introduced in the more modern and pretentious houses, whose business it is to keep the door shut, and only to open it when somebody wishes to come in, and not to admit beggars or disreputable persons. Their position is not a sinecure. I made the acquaintance of a Dresden hall-porter, and observed his proceedings for a whole year. He was a small, cringing, hook-nosed man, with thick straight black hair, short black beard, and a ghastly pallor of complexion which no stress of circumstances could ever modify. He cultivated that philosopher's desideratum, a continual smile, and he was full of becks, nods, obeisances, and grimaces. He rose at five in summer, and, I believe, not more than an hour later in winter. Why so early, I know not; there seemed not much to do besides sweeping out the hall, knocking the door-mat against the jamb, and exchanging a morning greeting with the char-woman of the house opposite. But he was a married man, and may have had some household jobs of his own to attend to. He and his wife lived in two rooms adjoining the hall-way, so narrow and close that any respectable house-rat would have turned up his nose at them. The porter followed some small handicraft or other, whereby to eke out his salary; and at odd movements I could see him at the side window, working away, but ever keeping an eye to the sidewalk for visitors. He could lift the door-latch without leaving his seat, by means of a wire pulley, and when a denizen of the house approached, the door would spring open as if to welcome an old friend, before he could lay his hand to the bell handle; but strangers had to ring. In winter, I fear the porter had a sour meagre time of it. Besides the extra work of clearing away the ice and snow, there was the cold, which he could not do away with. But in summer he was happier; he wore a striped linen jacket and a long dirty apron, and was very active with his broom, and his street watering-pot. He had a great

circle of acquaintances, and his little hall-room had its fill of visitors at all times. He was a very sink of private information, knew all that the housemaids of the various Etages could tell him, and had understandings with all the tradesmen's boys who brought parcels for members of the household. Whether there was an escape-pipe for this deluge of confidences, must have been a question of some moment to those who were discussed.

All at once a baby was born ; it looked as if nothing could prevent its dying instantly ; but it lived, and I dare say is alive now. The little porter was as proud of his baby as though there had been the germ of a Goethe in it ; he held it constantly in his arms, and clucked at it, and dandled it unwearingly. All the gossips admired it, and the people in the house stopped to smile at it as they passed through the hall. I doubt not that various bits of baby-furniture, useful or playful, found their way downstairs from the upper floors ; for babies make even Saxons forget themselves for a moment. No doubt, too, any little deficiency of water in the cisterns, or irregularity in the gas-lighting, or delay in brining up letters and visiting cards, was condoned for a time. The porter might reasonably have wished that the baby should be renewed as often as once every four or five months.

Next to the baby, the porter's trump card was a gigantic dog, a cross between a Newfoundland and a Saint Bernard. He was as big as a Shetland pony, and lay majestically about the hall, or stalked lion-like up and down the sidewalk. The chief objection to him was that he was above keeping himself clean, and had no valet to do it for him ; and whoever made bold to caress him had reason to remember it for the rest of the day. Nevertheless, this huge beast slept in the porter's room, filling up all the space unoccupied by the porter himself ; and, considering that fresh air was rigorously excluded in summer as well as in winter, it was a constant surprise to me to see the porter appear, morning after morning, apparently no worse off than when he went to bed. But I do the dog injustice ; it was he who suffered and degenerated ; why should he be forced to share his kennel with a man ? There was in him a capacity for better things ; for when the porter watered the lawn at the back of the house with the

garden hose-pipe, the dog would rush into the line of the stream and take it point-blank on his muzzle, barking and jumping with delight. But the porter never took the hint home to himself, nor understood, I suppose, what pleasure the dog could find in being wetted.

The porter's bearing towards the various inhabitants of the house was accurately graduated in accordance with their elevation above the ground floor. With the waifs of the attic he was hail-fellow-well-met. Pleasantly affable was his demeanor to the respectable families on the third étage, whose rent did not exceed £150 a year. The second floor, at £300, commanded his cordial respect and good offices ; while speechless, abject reverence, and a blue dress coat with brass buttons, fail to express his state of mind towards the six-hundred-pounders of the first landing. This behavior of his was not so much acquired, as an instinct. The personality of its recipients had nothing to do with it ; were Agamemnon, on the first étage, to change places with Thersites in the attic, our porter would slap the king of men on the back at their next meeting, and hustle him out of the way of Thersites, when the latter came down to his carriage. Moreover, if Agamemnon were a Saxon, he would not dream of getting indignant at this novel treatment.

But hall-porters do not strike at the root of this common-door evil ; on the contrary, by pruning away the ranker leaves, they make the ill weed grow the stronger. The door is still open to whom-ever chooses to enter, and would be just as common, were an especial passport from Berlin necessary for every crossing of the threshold. If decency is to be outraged, it is of no real moment whether it be done directly or indirectly. There is a vast moral advantage in the feeling that our home is our own, from the garden-gate to the bed-chamber. Any infringement thereof is a first step towards Communism ; and I do not believe that a person of refinement can become accustomed to the "Flat" system without undergoing more or less abrasion—or what is worse, hardening—of the moral cuticle. Between vertical and horizontal living there is even more of a difference than of a distinction. To sit between two men—one on the right hand, the other on the left—is endurable ; but not so the being sandwiched, prone,

over one man and underneath the other. We can neither raise our eyes to heaven, nor set our feet upon the earth; a human body intercepts us in both directions. Surely one door is not enough for so great an escape as is needed here.

III.

In these houses people begin to live beneath the level of the pavement, and thence ascend until scarce a tile intervenes between them and heaven. The basement people must take degraded views of life. They see only feet and legs and dirty petticoats, and their windowpanes are spattered with mud from the sidewalk. Living up to their necks in earth must considerably impede them in the race, not to speak of the crushing weight of five or six stories overhead. If they were deeper down it would not be so bad, for there is a mystery about the depths of our mother earth—a blind recognition, perhaps, of the interest of buried ages; and we get so much from the earth—everything except our souls, let us say—that what concerns her is our concern also. Miners are a fine symbol of materialism. They live in the earth—earth is beneath their feet, around and above them: no firmament too high to be reached with a ladder; many strange things, but none that may not be handled; a world of facts, wherein they stand self-contained and gloomily serene. As we, sitting indoors, pity the wayfarers exposed to the inclemency without, so do these miners pity and despise us, exposed to the blue and white glare of the bold heavens, stared out of countenance by sun and moon, blown by winds and wet with rain. Who can sympathise with the sky? Yet sooner or later all must revisit the surface, if only to be buried there.

But the grave and taciturn miners, whom we often meet on our walks towards Tharandt, with their odd costume and gruff "Glück auf!" are a very different race from the dwellers in basements. These poor creatures, being half in and half out, can claim neither heaven nor earth, but are exposed to the wrath of both. The feverish damps have entered into their blood, and their sallow faces, as they peer up at us from the underground windows, seem more clay than flesh. I am, however, able to record one cheerful exception, which will help us to

take leave of the basements with a pleasant savor in our nostrils. It is on the north-eastern corner of See and Waisen hausstrasse. Here the sidewalk consists partly of a grating, in passing over which a most appetising odor salutes us. We glance downwards through a subterranean window, where behold two or three stalwart cooks in white aprons and paper caps, frying delectable veal cutlets over a glowing range. The window is open at the top, and the spiritual essence of the cutlets rises through the aperture to delight our noses. As we pause to sniff once more, the fattest of the cooks tips back his paper cap and wipes his sweating brow with his warm bare arm. Phew! here, at all events, is more flesh than clay. The fat cook's glance meets ours, and we exchange a sociable grin. He is *chef* of the Victoria Keller, and we know his cutlets of old.

IV.

In the houses which are only dwelling-houses, the next step above the basement is to the Parterre, which is generally raised some four or five feet above the sidewalk-level. But the great mass of houses in the city are shops in their lower story, and attain the heights of gentility only after climbing a flight of stairs. There is a subdued mellow splendor about Dresden shops such as I have not seen exactly paralleled anywhere else. Perhaps the gloom of the narrow streets and the musty drab color of the houses enhance these splendid windows by contrast. But the shopkeepers give much time and thought to the artistic arrangement of their wares; it is a matter which they understand and into which they can put their whole souls, and the result does them credit. Each window is a picture, with height, depth, breadth, and chiaroscuro all complete: and far more attractive pictures, to most people, than those on the walls of the Gallery. Moreover, the details are altered every morning, and at longer intervals there is a recasting of the entire design; so that the fascination of life is added to the other fascinations. And finally, the shops are so immediately accessible that it seems rather easier to go into them than not. Our timidity is not daunted by imposing doorways, nor is our inertia discouraged by dignified flights of steps

and broad approaches. Within, we take off our hats, say good morning, and feel perfectly at home. However fine the wares may be, we are distracted by no grandeur of architecture; and we are waited on by attendants, not by ladies and gentlemen. We bid adieu at parting, and hardly realise, as we regain the sidewalk, that we have actually been shopping at all.

These are some of the lights of the picture; there are shadows—heavy ones! After some deliberation, however, I think there will be little use in attempting to reproduce them. Those whose lives have been crossed by them will not care to have the experience recalled; while the uninitiated can never be brought to believe in their depth and blackness. Be it merely observed, therefore, that Dresden shopkeepers are sufficiently inspired with a desire to prosper in trade. It may be conjectured that they give their minds to their business; certainly the reproach of discursive attainments can not be brought against them. Their heads, so far as intellectual value is concerned, are about on a par with the silver effigies on the thaler which they cherish. I have somewhere seen it asserted that the German tradesman is notably of a scientific, philosophic, and æsthetic turn, and that, in the intervals of labor, he snatches up his volume of Rosencranz, Lemcke, Bolzmann, or Goethe, from the perusal of which the very chink of coin will scarcely win him.

So far as my observation goes, this is a cruel and unfounded aspersion upon the character of a guild whose singleness of purpose has profoundly impressed me. They do not know what Science and Philosophy are. They will not read even a novel, nor yet a newspaper, unless it be the *Boerse Zeitung*. They look at the pictures in *Kladderadatsch*, but do not understand the political allusions. Their eyes are dull to the culture and progress of the world, and, to all that is above the world, wholly blind. But they can spy a bargain through a stone wall, and a thievish advantage through the lid of a coffin. Nevertheless, I am of opinion that a wider culture might help them to be even more truly themselves than they are now. Beautiful as is the untutored earnestness of their character to the eye of the psychologist, to the man of the world

they seem deficient in the breadth and grasp of mind which would enable them most effectively to carry out their designs. With all the disposition to steal that an ardent German nature can have, they lack the wisdom so to commit their thefts as to secure the largest and most permanent returns. There is a rugged directness in the way they pick our pockets which at first charms us by its naïveté, but ends with wounding our feelings and lowering our self-esteem. They take so little trouble to make their lies plausible, that we cannot pretend to believe them without blushing. It is easy to pay a bill of three times the amount of the original charges; but to pay again and again for things which we never had, and which it is not even feigned that we ever had, gets to be almost painfully embarrassing. If I lay my purse upon the counter, it would evince a delicacy of sentiment in the shopkeeper to wait until I had turned away my eyes before taking it. Such a course would be to his advantage, besides; for I could then ignore the theft, and we could continue our relations with the same frankness and cordiality as before, and in due course of time I might let him steal my purse again. But openly to transfer it to his till, while I am looking straight at it, seems to me tantamount to a wanton rupture of our acquaintance. There is originality, there is vigor, there is noble simplicity in the act, if you will; but our effete civilisation is apt to forget its beauties in shuddering at its lack of clothing.

This ruggedness is largely fostered, no doubt, by the continual shifting of the foreign population. A customer who is here to-day and gone to-morrow must evidently be robbed without delay; and it makes little difference how, since there will be another to take his place. So demoralising is travel to the places which are travelled through! If a permanent colony of philanthropic English and Americans would establish themselves in Dresden, I question not that, in the course of a few years, the whole mercantile community would be educated into such accomplished thieves that they could steal twice as much as now, without creating a tithe of the awkwardness and misunderstanding which at present exists. Persons in search of a mission would do well to ponder this enterprise.

Passing over, then, the darker shadows appertaining to the Dresden merchant guild, let us revert to the cheery spectacle of the shop windows. The mercers' are the best off for color; they sometimes look like giant rosettes, with tints sweetly harmonised. There is a bald-headed gentleman on Seestrasse who arranges his silks in a fresh combination every morning, and then steps into the street and contemplates the effect with side-long glances and hands clasped in silent rapture on his shirt-bosom. He forgets that his head is hatless—not to mention its hairlessness; he does not heed the unsympathetic world-stream, hurrying past; the universe is an unstable vision, but the silks are real, are beautiful, are tastefully arranged. We cannot withhold our respect from this man. He is as sincere an enthusiast as Luther or Mahomet, and no less estimable in his degree. Undoubtedly he is a happier man than either, for I never saw him dissatisfied with his work.

But the windows of the stationers' shops are more generally attractive. Here is a world of photographs from life, from still-life, and from art, ancient and modern. There is a sympathy between photographs and travelling; they are mathematical functions of each other. Dresden photographs are remarkable for their softness and delicate tone—qualities which appear to depend in some measure upon the atmosphere, but still more, I fancy, upon the care and skill wherewith they are "finished" in India ink and white. There is a certain Professor Schurig, whose profession seems to be making crayon copies of the more famous pictures in the Gallery; and these crayons are diligently photographed in every gradation of size. The Professor is sometimes very felicitous, but within the last year photographs have been taken from the famous originals; and though they appear rough and stained and obscure, there is always a gleam of divine expression somewhere about them, which transcends the art of the most curious copyist. Besides these, there are a great many of Goupil's French reproductions, and a whole army of female deities, as well of this as of more primitive ages. It is a singular fact that the wholly naked goddesses of ancient mythology look incomparably more modest than do the

half-clothed divinities of to-day. The reason may be that the former were never aware that their unconsciousness would one day be photographed; but what a shame that our modern nymphs should labor under so embarrassing a disadvantage!

An artistic fruit more native to Dresden is the china-painting, of which there are many exhibitions in town. It is all copying work, save for such originality as may belong to an inaccurate imitation. Accuracy, indeed, is not aimed at; for even if attained in the painting, the subsequent baking would warp it wrong again. But the effects produced are marvellously soft, glowing, and pure; and such brilliant falsehoods are generally preferred to the black-and-white truth of photography. Justly so, perhaps, since black-and-white is not the whole truth, and color is often of more significance than form. A new application of this art is to copying cartes-de-visite, with better success than might be expected. The most satisfactory results are with the faces of old people and young children: in the first the furrows and wrinkles are guiding-lines to the draughtsman; in the others there are few fixed and definite traits in which to err. But the subtle curves and changing yet expressive contours of youth make game of the artist's efforts. The best thing to do with paintings of this kind is to inlay them as medallions in ebony and marqueterie cabinets. So placed, they look like great jewels, and any minor inaccuracies are unnoticeable.

As for the Dresden—that is, the Meissen porcelain—it is too delicate a topic for such rough notes as these. I went to Meissen once, and saw it made and painted. I walked up and down long cool corridors, and peeped into oblong rooms, where five hundred sickly young men are always at work, each repeating for ever his especial detail, and never getting a step beyond it. I saw little legs and arms and heads and trunks come out perfect from separate moulds, and presently build themselves into a pygmy man or woman. In another apartment I saw flowers painted so rapidly and well, that they seemed to blossom beneath the painter's fingers. No flower-painting surpasses the best work of these young fellows—for they almost all are young. They apotheosise Watteau, too, making him out a more

cunning artist than he was. I am speaking of the flat work ; the raised flowers are hideous, indecent, and soulless. It is no small labor to model them, and wonders of skill they are ; but what sort of a Frankenstein must he have been who first conceived and carried out the idea of making them ! No flowers grow on his grave, I think ; but it would have been a poetical justice to bury him in a heap of his own roses.

The little porcelain people are not so objectionable, except when they are made to pose at ease on the precipitous slopes of slippery vases. They are much better before baking than afterwards, however ; for they emerge from the fiery furnace with a highly polished surface which is beautiful in itself, but far too lustrous to be human. . . . I will not moralise here ; but on the whole I wish a bull would get into the Meissen china-shop and smash everything except the simple flower-painted vases and dishes. There is one vase with a flower-wreath round it, which seems just to have been dropped there, fresh, fragrant, and dewy from some Juliet's garden—a wreath which should immortalise him who created it. "Ja," assents our Saxon conductor, "es ist ja wunderschoen ; but here, best sir, here is what far outdoes the nature ; behold it, the pride of our manufactory—a porcelain violet, modelled by hand, tinted to the life, baked, glazed, perfect ! Verily a masterpiece ; and to think that a trumpery, good-for-nothing little violet should have inspired a work of art like that ! Strange—oh, wonderful !"

It is strange, indeed. However, we are not in Meissen. In Dresden is only one legitimate porcelain shop, containing specimens of all the work produced. After the vases, the things best worth studying are a pair of Chinese personages—a lady and gentleman—who squat cross-legged on porcelain cushions, smiling broadly, and hanging their hands as only the Chinese can. We jog them a little, and instantly they become alive—they move ! They wag their grinning heads and stick out their pointed red tongues with a jolly, leering, Chinese impropriety impossible to describe. Their hands move up and down in a slow ecstasy of ineffable Mongolian significance. Really it is an impressive sight :—we see them long afterwards, wagging and leering at us, in our dreams.

The unanswerable question is, which of the two is the more scandalously fascinating ?

Next to this happy pair, I like an *epergne*, where three charming young women—the Graces, by their costume—embrace a thick column which expands above into a dish. A most comfortable design ; for it always appears to me that Aglaia, Thalia, and Euphrosyne have got hold of a round German stove, and are warming their pretty little procelain stomachs against it. None of the ancient sculptors have represented them doing anything half so cosy and sensible. The notion gives the group just that touch of humor which it requires to be interesting. Beauty, simple and severe, should never be attempted in tinted, melodramatic sculpture such as this : but our Saxon artists can in no wise be brought to believe it. They enjoy sentimentality more than fun ; and this is one reason why their sentimentality is so sickly.

They succeed better with *meerschaum*. The goddess Nicotine has a fund of good sense, which prompts her, as a general thing, to put a smile, either broad or latent, into the carving of her pipes and cigar-holders. The material is more beautiful than either marble or porcelain, and is delightful to work in. A man of leisure, education, and refinement might benefit both himself and the world by devoting his whole attention to cutting and polishing *meerschaum*. There is unlimited field for inventive design, for taste, for humor, for manual skill and delicacy. And how pleasant to reflect that each pipe, over which we thought and labored our best, will become the bosom friend of some genial, appreciative fellow, who will discover its good points, and be proud of them and love them. For all good smokers are married to their pipe ; are sensitive to its critics and jealous of its rivals. And when the pipe is worthy of affection, it endears itself ever more and more ; and though it be colored black with nicotine, is tinged yet more deeply with the rich essence of mellow reminiscences and comfortable associations.

The Viennese do their work well, and perhaps have a special knack at it. There was once, in this window which we are now contemplating, a Skye terrier's head, about the size of a clenched fist, with mouth half open and hair on end, which only needed

a body to begin barking. It was bought by a Scotchman for twelve pounds, which, if the animal was of the true meerschaum breed, was dog-cheap. This question of genuineness, by the way, is one which every tyro believes he can settle at a glance. There are, he tells you, a few simple and infallible tests, easily learnt and readily applied; he talks about weight, tint, texture, sponginess; and assures you that if you are ever taken in, only your own carelessness is to blame.

It is a fallacy from beginning to end. There is no way of "telling" a meerschaum, except to smoke it for at least a year. We may amuse ourselves with applying tests, if we like, but they will demonstrate only our satiety. The dealer is as impotent to decide as anybody, so far as judgment by inspection goes; unless he be prompted by the maker. But even the maker will be at a loss between two pipes, the history of whose making he has forgotten. We might go back still farther, and ascribe the only trustworthy knowledge to the Natolian miner, who digs the clay out of the earth. Meerschaum is like woman's heart—as soft, as light, as brittle, and as enigmatic, and only time and use can prove it true.

Pipes are bought chiefly by foreigners; Germans use meerschaum in the form of cigar-holders—"Spitzen," they call them. Spitzen are economical, but not otherwise desirable; they enable us to smoke our cigar to the bitter end, but they are an unnecessary and troublesome encumbrance. Nevertheless, they are popular, for they color more evenly and further towards the mouth than pipes do, and they are more striking in appearance. But I scarcely think they insinuate themselves far into their owners' secret affections; a man of sentiment may have vanity enough to wear one in public, but in private he will not be bothered with it. Coarse, hard men, devoid of sentiment, and of the fine quality which can appreciate the quiet charms of a pipe, are precisely fitted to enjoy the ostentation of a Spizze.

Tobacco plays so prominent a rôle in a Saxon's life—so perfumes the air and impregnates the lungs—that we are insensibly led to discuss it at some length. Probably there are not ten righteous men in Dresden who do not smoke or snuff—chewing, luckily, is unknown, though I believe the practice originated hereabouts.

I have often met a hundred men in succession, no one without his cigar. Cigar-smoking, it should be observed, is not an expensive habit in Dresden; it may be indulged to excess for not more than two pounds sterling a year. Half as much will provide three not intolerable cigars daily. Moreover, it is to be borne in mind that no true-born Saxon ever throws away a cigar, or any part of one. He consumes it in instalments, and his pockets and cupboards are full of pestilent remnants from half an inch to three inches long. A learned Professor, whom I visited occasionally, passed his life at a study-desk, every loophole and cranny of which harbored cigar stumps of various ages and sizes. My first supposition was that here was an eccentric recluse, whose whim it was to rake together this kind of unsavory relics. But I presently saw him select the most ancient, stalest stump from its hiding-place in the most cobwebbed cranny, and kindle it into activity with a sulphur match. He preferred such resuscitated corpses—an old tobacco-vulture, with a morbid craving for carrion!

This same people smoke Russian cigarettes—the most ethereal guise under which tobacco presents itself. The variety used is Turkish, and is the purest and finest in the world; but so pungent that—except hookahs—the cigarette is the only available form for it. Ladies smoke these cigarettes, though only the Poles and Russians do so publicly—they, indeed, smoke cigars quite as readily, and for my own part I much enjoy the spectacle. Not only do they appear admirable as regards their dainty manipulation and osculation of the weed, but their smoking lends an oriental flavor to the scene, whereof the fumes of the Latakia are but the material emblem. When an English or American lady smokes, she simply commits a small impropriety; but in the mouth of a fair foreigner, who has been brought up to know no better, a cigar is a wand to conjure up romantic visions and Eastern fantasies. The gentle reader will understand me aright, nor seek to put me out of countenance by evoking images of coarse, black pipe-puffing Indian squaws and Irishwomen.

An idiocrasy of Dresden, or perhaps of Germany, is the sausage and smoked-meat shop. It is kept clean as a pin in every part. The dressers are glistening

white limestone; the scales and weights of polished yellow brass; there are generally one or two panel-mirrors, very effective. The razor-keenness of the long bright knives; the clear red and white of the "cuts," and of the complexions of the female attendants; the piquant odor of the smoke-cured flesh would give a Brahman an appetite. Raw meat is not a pleasant sight except to butchers and medical students; but when refined by the education of salt and smoke, it becomes highly companionable. Of the merits of sausage, it would perhaps be rash in a foreigner to speak; every nation has its pet peculiarity, which no outsider can criticise without offence. Nothing is more peculiarly national than the German sausage, and perhaps the very quality which so endears it to Germans, renders it hard of comprehension by the barbaric mind. The Coat-of-Arms of Dresden has been flippantly described as bearing a sausage in its pocket, with the motto, "Es ist mir Wurst." The people certainly have a way of carrying sausage about with them in their pockets—not always in their coat-pockets, either—and pulling it out to gnaw upon it, in moments of abstraction or *ennui*; and if a barbarian expresses annoyance at the spectacle, they shrug their shoulders scornfully and ejaculate, "Es ist mir Wurst!" But the phrase is of very various application, and like the American formula, "It don't pay," is noteworthy only as indicating the bed of the popular current of thought.

There are two or three furniture shops about town, containing plenty of pretty furniture imported from Berlin, and made chiefly after French designs. But in spite of its prettiness, there is nothing sincere or satisfactory in the making of it. The chairs and sofas are never comfortable; the tables, sideboards, and cabinets are never solid, though always warranted to be so. A superficial acquaintance with such furniture predisposes us in its favor; but ripening familiarity breeds contempt. Our fine friends wear out; their gay feathers ornament nothing substantial; they are loose in the joints and warped in the back. In the day of auction they are found wanting. On the whole, I think this Dresden or Berlin furniture is the most worthless that is anywhere manufactured. Compared with the massive and rich simplicity of the best American furniture, it shows

like a charlatan beside a gentleman; nor is its case much bettered by contrast with English work. A Saxon feels none of the pleasure which we feel in knowing that what pretends to be ebony, or mahogany, or cloth of gold, is such, to the backbone. A solid mahogany dining-table would take away his appetite as often as he sat down to dinner. It is a fine show from cheap materials that yields him most unmixed satisfaction; and so the Saxons are happy in their furniture. What I have said is in reference only to the best and most expensive upholstery, such as adorns the villas on the Bürgewiese. The ordinary houses are fitted up with a kind of goods which is, perhaps, preferable; for though to the full as badly made as the fine sort, it does not so belie itself by any attempt at outward embellishment.

Some people see a charm in old curiosity-shops, but they remind me of the artfully constructed cripples and sufferers from painted ulcers, whose simulated woe is often obtruded upon innocent travellers. It is conceivable that a vast deal of antiquated trash should exist, which its owners would gladly be rid of; but that age and worthlessness should enhance value is a circumstance requiring explanation. I never saw a beautiful thing in a Dresden curiosity-shop, and I think the sweepings of two or three old-fashioned attics would outshine and outvalue the richest of them. They are hidden artfully away in gloomy alleys and back streets; their windows are dusty, their ceilings stained, their floors creaky, their corners dark; their rubbish is heaped disorderly together, with a coarse attempt at dramatic effect. The dealer is dressed in a correspondingly shabby costume, and cultivates an aspect of dishevelled squalor. I should suppose that the business largely depends for success upon the philosophic principle of the grab-bag at fairs. In such a mass of plunder we cannot help believing in a leaven, however small, of something really valuable; some pearl of price, which, by advantage of the dealer's ignorance, we may obtain for next to nothing. But the real lay of the land is quite otherwise. Instead of buying invaluable things cheap, we purchase valueless things dear; and as to the dealer's ignorance—what, in the line of his business, he does not know, is decidedly not worth knowing. The tribe is not peculiar to Dresden; wherever are

travelled flies, there likewise spin their webs these curious old spiders.

VI.

But let us rise above shops and shopkeepers and see life upon the first Etage, where dwell the rich foreigners and the German princes. The staircase which helps us thither is probably very dark, and darker still the passage to which the inner house-door admit us. An artistic stratagem may be intended by this; for, indeed, that were a poor parlor which looked not well after so dusky, not to say evil-smelling an entrance way. Evil-smelling or not, we must pause to be delivered of an observation before opening the parlor-door. In the Anglo-Saxon mind an entry is associated with the idea of a staircase; without which it seems an anomaly, and we wonder how it manages to dispose of itself. In fact, it sprawls about in an unbraced, vacant-minded manner, with its doors all on one side, and half-strangled by two or three great wardrobes, which also endanger the heads and knees of the unwary. This lack of stairs makes itself felt throughout the house, which is comparable to a face without a nose or a land without a mountain. It is insipid. Our houses are rooms grouped round a staircase, and thus gain a flavor and character which distinguish them in the imagination. The different floors, each with its separate sphere in the household economy, are ordered as naturally as are the organs in the human body. But no stairs implies a serious deficiency of moral stimulus. Moreover, we are embarrassed by the loss of handles to an extensive family of remarks. "Go down stairs," "Run up stairs," "Come down to breakfast," "The baby is on the stairs!"—these and many more such expressions must be simply dropped out of existence. It is startling, too, to reflect that the kitchen stands as high as the parlor, and that the parlor is no less out of the way than the bedchamber. We can roll a marble back and forth from one end of the house to the other.

Meantime we will open the parlor-door. Like all German doors, it opens in the middle, the left half being usually bolted to the floor, and only the right opened and shut. There are several advantages over our system in this arrangement. The doors are less obtrusive. They open with only half as much of a sweep and a flourish, and

stand ajar without standing in the way. They are the next best things to curtains: for interior doors are all more or less a relic of barbarism, and latches and locks delay the entrance of the millennium. Heaven has its gates, it is true, but those once passed, we shall find none in the heavenly mansions: whereas Hell is doubtless as full of bolted doors as of burglars.

Dresden doors, to tell the truth, are almost too yielding for this sinful age. They have a strong bent towards warping. The bolts will not shoot, nor the latches catch, and the door is constantly springing open in a generous, free-hearted way, as much as to exclaim, "Look through me, everybody! I have nothing to conceal!" In Heaven, in summer, or in solitude, this vivacity is a charming trait, but at other times it may be annoying. It is partly compensated by the crevice underneath the door being ordinarily so wide that letters and newspapers, and even slender volumes, sometimes, may be slipped through without disturbing the hardly-won attachment of the latch. But in the common event of a sudden gust of wind, all the doors in the house jump open at once, as though a dozen ghostly intruders had forced a preconcerted entrance. The latches, by the way, turn by handles instead of round knobs; a trifle, but one of those which lend a foreign flavor.

The latch gives way, then, and behold the parlor! There is a tall square white stove—a permanent feature in all the rooms—drawn up in one corner like the ghost of a family chimney. In the adjoining angle the centre-table is pinning the stiff-backed sofa against the wall, and four rungless chairs are solemnly watching the operation. There are flower-stands in the slimly curtained windows, and the pallid walls are enriched with half-a-dozen lithographic portraits of the Royal Family, and a large engraving of Schiller at Weimar. In another place there is an eruption of small round black-rimmed daguerreotypes and photographs of dead or departed relatives—a singularly unattractive collection. Neither these nor the larger pictures are hung; they have apparently broken out of the wall in consequence of the diseased condition of the house, and the breaking-out has not taken place in an even or orderly manner; the frames are all more or less awry, and there is no balancing of one against another. Be-

tween the windows is a mirror reaching nearly from floor to ceiling ; but instead of being one sheet of glass, it consists of three or four sections, the line of junction generally contriving to maintain the same level as our line of sight. The floor is of bare boards painted brownish yellow and polished ; or, in the newer houses, it is parqueted, and waxed, so that it reflects the ceiling, and is perilous to walk on. It is seldom left wholly bare, however, unless in the heat of summer ; the expanse is tempered with rugs, a large one beneath the table, and smaller satellites in various parts of the room. The banishment of full-grown carpets is by no means an unmitigated blunder. The polished floor communicates a sort of dignity to the legs of the chairs and tables, and puts us in mind of French *genre* pictures. If there is dirt anywhere, it is immediately visible ; and the rugs can be thrashed every day without disordering anything. In winter a fox or bear skin remedies the coldness of bare boards which summer renders a luxury. Our partiality for Aubussons, fitting snug to the wainscot, is perhaps a prejudice ; there may be no more reason for them than for tapestry. Nevertheless, the foot naturally loves to be pressed on softness, and requires artificial training to walk on slipperiness. Turf is a good precedent for carpets, and in discarding them we lose in home-comfort what we gain in hygiene and elegance.

The windows open on hinges in the same manner as the doors. It is a pleasant, antique fashion : this is the kind of casements from which the ladies of the Middle Ages were wont to converse with their lovers. They could never have pushed up our modern window, with its uneven grooves and rough-running cords, nor eloped through it with any grace and dignity. Moreover, nothing is less picturesque than an open window of the modern style ; whereas the old casement, standing ajar, forms a picture by itself. In winter a supplementary window is fitted outside the original one, with the good effect of excluding noise as well as cold air. When the north winds blow, these exterior fixtures are severely shaken, and from street to street, as the gale rises, we hear the slamming together of loose sashes, there being a fine for any window left open during a storm. A praiseworthy regulation, since if the glass be broken and

fall into the street it is liable to shear off people's fingers and noses ; and a couple of years ago, as a man was pointing out to another the road to the railway-station, he suddenly found himself without his hand. A piece of window-pane from the third story of a neighboring house had cleanly amputated it at the wrist.

It is the mark of a civilised people to pay even more attention to their bodily comfort at night than during the day. Sleep is a mystery which still awaits explanation ; but we know it to be the condition of visions which sometimes have a vital influence over our lives. In those visions the veil of the freewill is drawn aside, and our naked, unregenerate self stands revealed before our eyes. Pure, upright, and moral though we may be, in sleep we are liable to commit such crimes as the very *Police News* would fear to illustrate.

Surely, then, it were wise to make ourselves as comfortable in bed as possible, for physical unease communicates itself to the spirit, and a cramped position of the legs increases the activity within us of original sin. It is nearly a miracle, from this point of view, that all Germany is not given over to the Evil One. If their beds were a third part so comfortable as an ordinary coffin, there would be comparatively no ground for complaint. But the coffin is better in every respect, and a dead Saxon sleeps vastly easier than a live one. Were men like jack-knives, they might contrive to fit six feet of stature into four feet of bed-room ; and, perhaps, to lie unmoved beneath an overgrown feather pillow, which combines in itself the functions of sheet, blanket, and counterpane. It is imponderable—that pillow ; a sort of ghost of a mattress, but so hot as to suggest anything but a celestial origin. What are we to think of a people who put up with this sort of a thing from year's end to year's end ? Can we expect from them gentleness and refinement—an appreciation of fine shadings—a discriminating touch ? Can such a people be supposed capable of distinguishing between lying and discretion, between science and quackery, between philosophy and charlatany, between war and brutality, or even between statesmanship and bullying ? They cannot tell why respect is due to women ; they are a mingling of the animal with the machine ; and I believe the Survival-of-the-fittest

Law to be a libel on their Gothic ancestry.

So we merely pass through the bedroom—the most desolate and cheerless spot in the house—and are glad to find ourselves in the passage-way once more. The kitchen-door is ajar, and we may look in if we like; though, except the white china range, there is nothing there descriptively novel. An English cook might find some difficulty in broiling a steak; but the arrangements are well suited to Saxon needs. To be a thorough German cook requires only a callous conscience, a cold heart, a confused head, coarse hands, and plenty of grease. If, therefore, the other arts and sciences should ever pall upon them, one half the nation might very successfully cater to the palates of the other half. Some of the hotels have French cooks, or German cooks French-trained; but the people accept them as they accept knives and forks to eat with; not because they appreciate them, but because they are the fashion.

The best virtue of these Etages shows itself when they are thrown open for a ball. The long suite of rooms, merging vista-like into one another, appears palatial. The smooth floors seem made to dance upon. The only dissatisfied people are those who live on the Etage below; and even they may be conciliated by an invitation. The Saxons are much given to dancing, and may possibly have built their houses so as best to indulge their inclination. It seems a barren use to put a home to, but, on the other hand, it is no bad expedient for disguising the ugly fact of Saxon homelessness.

VII.

There are certain features of the Saxon household, upon which I have no disposition to enlarge, and which I shall pass by in silence. Special diseases should be left to the treatment of special physicians, and let us trust that, in the progress of the water-cure and of the sense of decency, they may be alleviated. Meanwhile we must pass through the second and third Etages, which are poor relations of the first, with nothing original about them,—and take our final observations in the attic.

Unquestionably this is the most attractive part of the house, whether viewed from without or from within. The very inconveniences are an enticement. Here

we are next-door neighbors to the clouds; and if we look down from our dormer-window to the street,—we may be so straitened as scarcely to be able to pay our ten pounds of rent, yet we cannot repress a feeling of superiority to those absurd little people crawling to and fro beneath us. By dint of our commanding outlook, we become to a certain extent prophets of the future. We can see the coming event while yet it is afar, and can predict what will happen to a man on his way from his house-door to his office. Prophecy is easy, if only our views of life are lofty enough; and its exercise creates an agreeable glow of power. What can be more pleasing than to watch two persons running along two sides of a corner, and to foresee what they cannot—that there will be a collision at the apex? Courage is easy too, and charity; and in general our moral and intellectual capacity is indefinitely enlarged. We appropriate the stature of the building, and become giants sixty or seventy feet high, able to straddle the Alt Markt and vault the Cathedral. We perceive the littleness and the vanity of man—the not-ourselves which eternally makes for gain. We are broadly critical, and marvel at the narrow-mindedness of people who cannot see through stone walls, nor five minutes ahead. We smile compassionately at yonder stranger, who positively cannot find his way to the American Bank. But shall we, in descending to the street, descend likewise to the level of intelligence of those who walk there? Heaven forbid! Yet if so it be, let us henceforward forswear the staircase, and make our promenades over the roof-tops, with only the crows, the cats, and the chimney-sweeps for company.

I must assume that everybody has felt the fascination of an attic, for it is beyond my skill to reproduce it. It depends in great measure upon the refreshing unconventionality of the ceilings, which do not hesitate to make advances to the walls, and sometimes stoop to acquaintance even with the floors. These eccentricities are a death-blow to the maintenance of any down-stairs formality and stiffness; we must be free, good-humored, and accommodating in our behavior, nor hold our heads too erect, lest they catch a rap from the rafters. It is strange how soon this sort of restraint and inconvenience im-

presses itself upon our affections; perhaps on the same principle that we are said to love best those who make the greatest demands upon us. The place is full of makeshifts and compromises, which may be bad things in conduct, but in house-keeping are delightful. The mind and character, being met by constraints on all sides, leave their counter-impression in the more unmistakable colors. The room grows human a hundred times faster than if it were square and ten feet high.

Moreover, attic-life is so condensed, that it must needs appear rich and idiomatic. And it is original because it is poor, and poverty cannot afford to be in the fashion. Poets are fabled to live in attics, because they cannot pay for grander lodgings; but I suspect there are better reasons for it; and certainly we often have cause to regret their better fortune; for the songs they sing on the Bel-étage are seldom so sweet and pure as those that sounded above the eaves, though doubtless far more ornate, ponderous, and regularly proportioned.

These Dresden attics are a city by themselves, and doubtless there is a kind of Freemasonry between the inhabitants. There are often two or three stories above the eaves, and it would hardly be too much to say that half the city population have their homes there. If the rich people knew what was to their advantage, they would gladly exchange lodgings with these Arabs of the roof. It is the roofs that redeem the houses from the charge of nothingness. They are the nonconformists, rich in individuality and warm in color, uneven as a tarpaulin flung over a pile of luggage, rambling, sloping, cornered, full of lights and shadows. The dormer-windows are of inexhaustible interest, jutting out of the mother-roof like baby houses taking a first look at the world. Doves roost on the little gable, and occasionally perch among the flower-pots on the window-sill. Now comes a young girl, to water the plants and complete the picture—one which Henschel's pencil has inimitably drawn. She pauses a moment to watch, with a half-smile, the courtship of two pigeons on the eaves-pipe; a blush gradually steals over her lovely face, for that canary, warbling in its little wooden cage at her ear, is perhaps reminding her of a certain maiden love-passage of her own last evening, when her sweet lips

made some lucky fellow the happiest man in the world. How tenderly the morning sunshine brightens on her fair hair and virginal figure! How lovingly that green vine droops over head, and how rich is the perfume of that verbena!

I should not have ventured upon this outburst, had it not been for that sketch of Henschel's, which stood before me as I wrote. The responsibility is his; I should never dare create such a face as that and call it German. Being ready-created, however, I am well content to believe it true, though the women I have seen in dormer-windows were invariably homely, and engaged in no more poetic occupation than sewing, or hanging out clothes, or screaming something to their gossip in the gable opposite. On rare occasions I have seen a cat steal along the tiles, harassed, meagre, with painfully suspicious eye, pausing ever and anon to peer and snuff and wave its tail. I suppose she was sparrow-hunting; but cats are the very rarest wild-fowl in Dresden. They are an exponent of another kind of civilisation than any which Saxons will attain. They are pariahs among this people—no one sympathises with them or understands them. The dogs have ousted them perhaps; and certainly there is more of the cur than of the cat in the Saxon character.

Dormer-windows exist in other places besides Saxony, but the eye-windows are, so far as I know, a peculiarly German institution. It shows a grotesque kind of humor to invent such things. They are single panes, about a foot square, standing upright in the body of the roof, which curves over them like a sleepy eyelid, and broadens like a fat cheek below. The life-likeness is often enhanced by various ingenious additions; and a couple of such windows, with a chimney between, give the house a curiously human aspect. The effect is not carried out in the body of the building; but, in fact, all the vitality of the house is concentrated in the top part of it, as if it rose up from below, like oxygen bubbles, and collected beneath the roof. The basement is torpid, the middle floors are stiff and taciturn, but the attics draw the very breath of life.

VIII.

There is a class of citizens in Dresden whose home is even higher than the attics; who dispute the ridge-pole with the crows,

the pigeons, and the cats; but who, though occupying the most elevated position in the city, above even the heads of the King and his council, are outdone by none in humbleness of demeanor, and sadness of attire. They are clothed from head to foot in jetty black; and, as though this were not enough, they smear their countenances with an application of the same joyless hue. Barefooted are they, and walk the streets, when they descend thither, with folded arms and downcast eyes, as if their very glance, not to mention their touch, might chance to soil the immaculateness of somebody's shirt-bosom. Nevertheless their complete blackness gives a strange force to their appearance—a condensation of meaning, so to speak, of the very darkest import. They are an embodied lesson to mankind. People of one color—of one consistent idea, however gloomy—are sure to be more remarked in the world than the gayest of piebalds.

This singular tribe never appears to have any interests or sympathies in common with humanity. Never are they seen conversing with a friend; and as to sweet-hearts and wives—good heavens! the thing is inconceivable. A species of awe invests them; in the most turbulent crowd their persons would be respected, and a pathway would be cleared for them whithersoever they might choose to pursue it. But they are seldom seen on earth: their abode is in the upper air. In the early morning, when most men are asleep, we may see their lonely figures far aloft, silhouetted against the pale tints of the sky, and gilded perchance by the first rays of the day's sunshine. What are they doing there at such an hour? Are they priests of an unknown religion, bound by dark vows to this sable garb and these mysterious rites? Mark yonder crazy anchorite—with what weird agility he clammers to the top of that tall chimney, and stands with the sleeping city at his feet, himself the blackest object in it—a blot against the pure heavens. Does he not look rather like the Devil, setting his foot upon the conquered world? Can it be that, under the impression that they are merely a useful and harmless, albeit personally unpossessing order of the community, mankind may have been harboring in its midst a deputation from the kingdom of darkness?

What is that creature doing on that

chimney? He seems to have a rope coiled round his arm; now he unwinds it, and lets it slip rapidly down the chimney's throat, till it must have reached the house's deepest entrails. Is there anything below which he wants to catch? See how he jerks the rope up and down, and how curiously he peers into the sooty hole. His motions remind us vividly of a fisherman bobbing for eels. Is this the devil, bobbing for a human soul? What bait does he use?—not worms, surely: more probably it is a deed of mortgage; or, perhaps, the good name of a young woman. Ah! was not that a bite? yes, he has caught it at last—whatever it is; and, mercy on us! with what an ugly eagerness does he haul his booty up. If only it would come unhooked; and, after the experience of this one mortal peril, have a chance to be wiser for the future! but that is not to be: the black fisherman is even now stooping to grasp his prey. Let us veil our eyes from the ghastly spectacle of its last struggles. Heaven grant that ugly hook never come dangling down into our own fireside circle!

Nay, but this gloomy fantasy is unworthy our common sense; in fact, it was only the last traces of a nightmare from which, at this early hour, our brain had not entirely freed itself. Yonder is no devil, but, as we read him now, some eccentric misanthrope, who vents his spite against the race by plucking defilement from the very flame which makes the household hearth bright—or would do so, were there no china stove in the way. He likewise finds a pleasure in making himself hideous with the soot from other people's chimneys, and thus rendering his aspect a perpetual silent reminder to them of their inward depravity. He takes a grim delight in their avoidance of him—he smiles to see them recoil from the contact of his garments; a little introspection, he thinks, would reveal to them a blackness more foul than that which disfigures him. He may be black-hearted, too,—he does not deny it; but at all events he hesitates not to conform the external to the interior man. Nobody can call him hypocrite. He is proud of his sooty brow, and shares the Indian's contempt for the Pale-face.

But, once more, have we reached the deepest solution of the problem? May not this questionable shape be a secret

benefactor of his species? Is he not a philanthropist of such large charity that he is willing to be loathsome in men's sight for the sake of relieving them of the results of their misdeeds; willing to sacrifice his own good name and social advantages in the attempt to clear a passage of communication between his brethren's homes and heaven? True, he would, in this case, like other philanthropists, lay himself open to misconstruction, if not to ridicule: for persons who take advantage

of chimneys to seek the sky are commonly looked upon as anything but proper objects of benevolence. Nevertheless, if our sooty friend be neither philanthropist, misanthropist, nor devil, what, in the name of common sense, is he? Well,—but it is not every man who can be mistaken even for these things; and should he, at last, turn out to be nothing better than a chimney-sweep, he may justly console himself with that reflection.—*Contemporary Review.*

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ON SOME OF THE RESULTS OF THE "CHALLENGER" EXPEDITION.

BY PROFESSOR HUXLEY.

IN May, 1873, I drew attention, in the pages of this REVIEW, to the important problems connected with the physics and natural history of the sea, to the solution of which there was every reason to hope the cruise of H.M.S. "Challenger" would furnish important contributions. The expectation then expressed has not been disappointed. Reports to the Admiralty, papers communicated to the Royal Society, and large collections which have already been sent home, have shown that the "Challenger's" staff have made admirable use of their great opportunities; and that, on the return of the expedition, their performance will be fully up to the level of their promise. Indeed, I am disposed to go so far as to say, that if nothing more came of the "Challenger's" expedition than has hitherto been yielded by her exploration of the nature of the sea-bottom at great depths, a full scientific equivalent of the trouble and expense of her equipment would have been obtained.

In order to justify this assertion, and yet, at the same time, not to claim more for Professor Wyville Thomson and his colleagues than is their due, I must give a brief history of the observations which have preceded their exploration of this recondite field of research, and endeavor to make clear what was the state of knowledge in December, 1872, and what new facts have been added by the scientific staff of the "Challenger." So far as I have been able to discover, the first successful attempt to bring up from great depths more of the sea-bottom than would adhere to a sounding-lead, was made by

Sir John Ross, in the voyage to the Arctic regions which he undertook in 1818. In the Appendix to the narrative of that voyage, there will be found an account of a very ingenious apparatus called "chlams"—a sort of double scoop—of his own contrivance, which Sir John Ross had made by the ship's armorer; and by which, being in Baffin's Bay, in $72^{\circ} 30'$ N. and $77^{\circ} 15'$ W., he succeeded in bringing up from 1050 fathoms (or 6300 feet), "several pounds" of a "fine green mud," which formed the bottom of the sea in this region. Captain (now Sir Edward) Sabine, who accompanied Sir John Ross on this cruise, says of this mud that it was "soft and greenish, and that the lead sunk several feet into it." A similar "fine green mud" was found to compose the sea-bottom in Davis Straits by Goodsir in 1845. Nothing is certainly known of the exact nature of the mud thus obtained, but we shall see that the mud of the bottom of the Antarctic seas is described in curiously similar terms by Dr. Hooker, and there is no doubt as to the composition of this deposit.

In 1850, Captain Penny collected in Assistance Bay, in Kingston Bay, and in Melville Bay, which lie between $73^{\circ} 45'$ and $74^{\circ} 40'$ N., specimens of the residuum left by melted surface ice, and of the sea-bottom in these localities. Dr. Dickie, of Aberdeen, sent these materials to Ehrenberg, who made out* that the residuum of the melted ice consisted for the most part

* "Ueber neue Anschauungen des kleinsten nördlichen Polarlebens."—Monatsberichte d. K. Akad. Berlin, 1853.

of the silicious cases of diatomaceous plants, and of the silicious spicula of sponges; while, mixed with these, were a certain number of the equally silicious skeletons of those low animal organisms, which were termed *Polycistinea* by Ehrenberg, but are now known as *Radiolaria*.

In 1856, a very remarkable addition to our knowledge of the nature of the sea-bottom in high northern latitudes was made by Professor Bailey of West Point. Lieutenant Brooke, of the United States Navy, who was employed in surveying the Sea of Kamschatka, had succeeded in obtaining specimens of the sea-bottom from greater depths than any hitherto reached, namely from 2700 fathoms (16,200 feet) in $56^{\circ} 46' N.$, and $168^{\circ} 18' E.$; and from 1700 fathoms (10,200 feet) in $60^{\circ} 15' N.$ and $170^{\circ} 53' E.$ On examining these microscopically, Professor Bailey found, as Ehrenberg had done in the case of mud obtained on the opposite side of the Arctic region, that the fine mud was made up of shells of *Diatomaceæ*, of spicula of sponges, and of *Radiolaria*, with a small admixture of mineral matters, but without a trace of any calcareous organisms.

Still more complete information has been obtained concerning the nature of the sea-bottom in the cold zone around the south pole. Between the years 1839 and 1843, Sir James Clark Ross executed his famous Antarctic expedition, in the course of which he penetrated, at two widely distant points of the Antarctic zone, into the high latitudes of the shores of Victoria Land and of Graham's Land, and reached the parallel of $80^{\circ} S.$ Sir James Ross was himself a naturalist of no mean acquirements, and Dr. Hooker, the present President of the Royal Society, accompanied him as naturalist to the expedition, so that the observations upon the fauna and flora of the Antarctic regions made during this cruise were sure to have a peculiar value and importance, even had not the attention of the voyagers been particularly directed to the importance of noting the occurrence of the minutest forms of animal and vegetable life in the ocean.

Among the scientific instructions for the voyage drawn up by a committee of the Royal Society, however, there is a remarkable letter from Von Humboldt to Lord Minto, then First Lord of the Admiralty, in which, among other things, he dwells upon the significance of the re-

searches into the microscopic composition of rocks, and the discovery of the great share which microscopic organisms take in the formation of the crust of the earth at the present day, made by Ehrenberg in the years 1836-39. Ehrenberg, in fact, had shown that the extensive beds of "rotten-stone" or "Tripoli" which occur in various parts of the world, and notably at Bilin in Bohemia, consisted of accumulations of the silicious cases and skeletons, *Diatomaceæ*, sponges, and *Radiolaria*; he had proved that similar deposits were being formed by *Diatomaceæ* in the pools of the Thiergarten, in Berlin and elsewhere, and had pointed out that, if it were commercially worth while, rotten-stone might be manufactured by a process of diatom-culture. Observations conducted at Cuxhaven in 1839, had revealed the existence, at the surface of the waters of the Baltic, of living Diatoms and *Radiolaria* of the same species as those which, in a fossil state, constitute extensive rocks of tertiary age at Caltanissetta, Zante, and Oran, on the shores of the Mediterranean.

Moreover, in the fresh-water rotten-stone beds of Bilin, Ehrenberg had traced out the metamorphosis, effected apparently by the action of percolating water, of the primitively loose and friable deposit of organized particles, in which the silex exists in the hydrated or soluble condition. The silex, in fact, undergoes solution and slow redeposition, until, in ultimate result, the excessively fine-grained sand, each particle of which is a skeleton, becomes converted into a dense opaline stone, with only here and there an indication of an organism.

From the consideration of these facts, Ehrenberg, as early as the year 1839, had arrived at the conclusion that rocks, altogether similar to those which constitute a large part of the crust of the earth, must be forming, at the present day, at the bottom of the sea; and he threw out the suggestion that even where no trace of organic structure is to be found in the older rocks, it may have been lost by metamorphism.

The results of the Antarctic exploration, as stated by Dr. Hooker in the "Botany of the Antarctic Voyage," and in a paper which he read before the British Association in 1847, are of the greatest importance in connection with these views, and they are so clearly stated in the former

work, which is somewhat inaccessible, that I make no apology for quoting them at length—

"The waters and the ice of the South Polar Ocean were alike found to abound with microscopic vegetables belonging to the order *Diatomaceæ*. Though much too small to be discernible by the naked eye, they occurred in such countless myriads as to stain the berg and the pack ice wherever they were washed by the swell of the sea; and when enclosed in the congealing surface of the water, they imparted to the brash and pancake ice a pale ochreous color. In the open ocean, northward of the frozen zone, this order, though no doubt almost universally present, generally eludes the search of the naturalist; except when its species are congregated amongst that mucous scum which is sometimes seen floating on the waves, and of whose real nature we are ignorant; or when the colored contents of the marine animals who feed on these Algae are examined. To the south, however, of the belt of ice which encircles the globe, between the parallels of 50° and 70° S., and in the waters comprised between that belt and the highest latitude ever attained by man, this vegetation is very conspicuous, from the contrast between its color and the white snow and ice in which it is imbedded. Insomuch, that in the eightieth degree, all the surface ice carried along by the currents, the sides of every berg, and the base of the great Victoria Barrier itself, within reach of the swell, were tinged brown, as if the polar waters were charged with oxide of iron.

"As the majority of these plants consist of very simple vegetable cells, enclosed in indestructible silex (as other Algae are in carbonate of lime), it is obvious that the death and decomposition of such multitudes must form sedimentary deposits, proportionate in their extent to the length and exposure of the coast against which they are washed, in thickness to the power of such agents as the winds, currents, and sea, which sweep them more energetically to certain positions, and in purity, to the depth of the water and nature of the bottom. Hence we detected their remains along every icebound shore, in the depths of the adjacent ocean, between 80 and 400 fathoms. Off Victoria Barrier (a perpendicular wall of ice between one and two hundred feet above the level of the sea) the bottom of the ocean was covered with a stratum of pure white or green mud, composed principally of the silicious shells of the *Diatomaceæ*. These, on being put into water, rendered it cloudy like milk, and took many hours to subside. In the very deep water off Victoria and Graham's Land, this mud was particularly pure and fine; but towards the shallow shores there existed a greater or less admixture of disintegrated rock and sand; so that the organic compounds of the bottom frequently bore but a small proportion to the inorganic."

"The universal existence of such an in-

visible vegetation as that of the Antarctic Ocean, is a truly wonderful fact, and the more from its not being accompanied by plants of a high order. During the years we spent there, I had been accustomed to regard the phenomena of life as differing totally from what obtains throughout all other latitudes, for everything living appeared to be of animal origin. The ocean swarmed with *Mollusca*, and particularly entomostratous *Crustacea*, small whales, and porpoises; the sea abounded with penguins and seals, and the air with birds; the animal kingdom was ever present, the larger creatures preying on the smaller, and these again on smaller still; all seemed carnivorous. The herbivorous were not recognized, because feeding on a microscopic herbage, of whose true nature I had formed an erroneous impression. It is, therefore, with no little satisfaction that I now class the *Diatomaceæ* with plants, probably maintaining in the South Polar Ocean that balance between the vegetable and the animal kingdoms which prevails over the surface of our globe. Nor is the sustenance and nutrition of the animal kingdom the only function these minute productions may perform; they may also be the purifiers of the vitiated atmosphere, and thus execute in the Antarctic latitudes the office of our trees and grass turf in the temperate regions, and the broad leaves of the palm, etc., in the tropics."

With respect to the distribution of the *Diatomaceæ*, Dr. Hooker remarks:—

"There is probably no latitude between that of Spitzbergen and Victoria Land, where some of the species of either country do not exist: Iceland, Britain, the Mediterranean Sea, North and South America, and the South Sea Islands, all possess Antarctic *Diatomaceæ*. The silicious coats of species only known living in the waters of the South Polar Ocean, have, during past ages, contributed to the formation of rocks; and thus they outlive several successive creations of organized beings. The phrénolite stones of the Rhine, and the Tripoli stone, contain species identical with what are now contributing to form a sedimentary deposit (and perhaps, at some future period, a bed of rock) extending in one continuous stratum for 400 measured miles. I allude to the shores of the Victoria Barrier, along whose coast the soundings examined were invariably charged with diatomaceous remains, constituting a bank which stretches 200 miles north from the base of Victoria Barrier, while the average depth of water above it is 300 fathoms, or 1800 feet. Again, some of the Antarctic species have been detected floating in the atmosphere which overhangs the wide ocean between Africa and America. The knowledge of this marvellous fact we owe to Mr. Darwin, who, when he was at sea off the Cape de Verd Islands, collected an impalpable powder which fell on Captain Fitzroy's ship. He transmitted this dust to Ehrenberg, who ascertained it to consist of the silicious coats, chiefly of American *Diatomaceæ*, which were being wafted through the upper region of the air, when

some meteorological phenomena checked them in their course and deposited them on the ship and surface of the ocean.

"The existence of the remains of many species of this order (and amongst them some Antarctic ones) in the volcanic ashes, pumice, and scoriae of active and extinct volcanoes, (those of the Mediterranean Sea and Ascension Island, for instance) is a fact bearing immediately upon the present subject. Mount Erebus, a volcano 12,400 feet high, of the first class in dimensions and energetic action, rises at once from the ocean in the seventy-eighth degree of south latitude, and abreast of the *Diatomaceæ* bank, which repose in part on its base. Hence it may not appear preposterous to conclude that, as Vesuvius receives the waters of the Mediterranean, with its fish, to eject them by its crater, so the subterranean and subaqueous forces which maintain Mount Erebus in activity may occasionally receive organic matter from the bank, and disgorge it, together with those volcanic products, ashes and pumice.

"Along the shores of Graham's Land and the South Shetland Islands, we have a parallel combination of igneous and aqueous action, accompanied with an equally copious supply of *Diatomaceæ*. In the Gulf of Erebus and Terror, fifteen degrees north of Victoria Land, and placed on the opposite side of the globe, the soundings were of a similar nature with those of the Victoria Land and Barrier, and the sea and ice as full of *Diatomaceæ*. This was not only proved by the deep sea lead, but by the examination of bergs which, once stranded, had floated off and become reversed, exposing an accumulation of white friable mud frozen to their bases, which abounded with these vegetable remains."

The "Challenger" has explored the Antarctic seas in a region intermediate between those examined by Sir James Ross's expedition; and the observations made by Dr. Wyville Thomson and his colleagues in every respect confirm those of Dr. Hooker:—

"On the 11th of February, lat. $60^{\circ} 52' S.$, long. $80^{\circ} 20' E.$, and March 3, lat. $53^{\circ} 55' S.$, long. $108^{\circ} 35' E.$, the sounding instrument came up filled with a very fine cream-colored paste, which scarcely effervesced with acid, and dried into a very light, impalpable, white powder. This, when examined under the microscope, was found to consist almost entirely of the frustules of Diatoms, some of them wonderfully perfect in all the details of their ornament, and many of them broken up. The species of Diatoms entering into this deposit have not yet been worked up, but they appear to be referable chiefly to the genera *Fragillaria*, *Coscinodiscus*, *Chetoceros*, *Asteromphalus*, and *Dictyocha*, with fragments of the separated rods of a singular silicious organism, with which we were unacquainted, and which made up a large proportion of the finer matter of this deposit. Mixed with the Diatoms there were a few small *Globigerinae*, some of the tests

and spicules of Radiolarians, and some sand particles; but these foreign bodies were in too small proportion to affect the formation as consisting practically of Diatoms alone. On the 4th of February, in lat. $52^{\circ} 29' S.$, long. $71^{\circ} 36' E.$, a little to the north of the Heard Islands, the tow-net, dragging a few fathoms below the surface, came up nearly filled with a pale yellow gelatinous mass. This was found to consist entirely of Diatoms of the same species as those found at the bottom. By far the most abundant was the little bundle of silicious rods, fastened together loosely at one end, separating from one another at the other end, and the whole bundle loosely twisted into a spindle. The rods are hollow, and contain the characteristic endochromie of the *Diatomaceæ*. Like the *Globigerina* ooze, then, which it succeeds to the southward in a band apparently of no great width, the materials of this silicious deposit are derived entirely from the surface and intermediate depths. It is somewhat singular that Diatoms did not appear to be in such large numbers on the surface over the Diatom ooze as they were a little further north. This may perhaps be accounted for by our not having struck their belt of depth with the tow-net; or it is possible that when we found it on the 11th of February, the bottom deposit was really shifted a little to the south by the warm current, the excessively fine flocculent débris of the Diatoms taking a certain time to sink. The belt of Diatom ooze is certainly a little further to the southward in long. $83^{\circ} E.$, in the path of the reflux of the Agulhas current, than in long. $108^{\circ} E.$.

"All along the edge of the ice-pack—everywhere, in fact, to the south of the two stations—on the 11th of February on our southward voyage, and on the 3d of March on our return, we brought up fine sand and greyish mud, with small pebbles of quartz and felspar, and small fragments of mica-slate, chlorite-slate, clay-slate, gneiss, and granite. This deposit, I have no doubt, was derived from the surface like the others, but in this case by the melting of icebergs, and the precipitation of foreign matter contained in the ice.

"We never saw any trace of gravel or sand, or any material necessarily derived from land, on an iceberg. Several showed vertical or irregular fissures filled with discolored ice or snow; but, when looked at closely, the discoloration proved usually to be very slight, and the effect at a distance was usually due to the foreign material filling the fissure reflecting light less perfectly than the general surface of the berg. I conceive that the upper surface of one of these great tabular southern icebergs, including by far the greater part of its bulk, and culminating in the portion exposed above the surface of the sea, was formed by the piling up of successive layers of snow during the period, amounting perhaps to several centuries, during which the ice-cap was slowly forcing itself over the low land and out to sea over a long extent of gentle slope, until it reached a depth considerably above 200 fathoms, when the lower specific weight of the ice caused an upward strain which at length overcame the cohesion of the mass,

and portions were rent off and floated away. If this be the true history of the formation of these icebergs, the absence of all land débris in the portion exposed above the surface of the sea is readily understood. If any such exist, it must be confined to the lower part of the berg, to that part which has at one time or other moved on the floor of the ice-cap.

"The icebergs, when they are first dispersed, float in from 200 to 250 fathoms. When, therefore, they have been drifted to latitudes of 65° or 64° S., the bottom of the berg just reaches the layer at which the temperature of the water is distinctly rising, and it is rapidly melted and the mud and pebbles with which it is more or less charged are precipitated. That this precipitation takes place all over the area where the icebergs are breaking up, constantly, and to a considerable extent, is evident from the fact of the soundings being entirely composed of such deposits; for the Diatoms, *Globigerina*, and radiolarians are present on the surface in large numbers; and unless the deposit from the ice were abundant it would soon be covered and masked by a layer of the exuvia of surface organisms."

The observations which have been detailed leave no doubt that the Antarctic sea bottom, from a little to the south of the fiftieth parallel, as far as 80° S., is being covered by a fine deposit of silicious mud, more or less mixed, in some parts, with the ice-borne débris of polar lands and with the ejections of volcanoes. The silicious particles which constitute this mud, are derived, in part, from the diatomaceous plants and radiolarian animals which throng the surface, and, in part, from the spicula of sponges which live at the bottom. The evidence respecting the corresponding Arctic area is less complete, but it is sufficient to justify the conclusion that an essentially similar silicious cap is being formed around the northern pole.

There is no doubt that the constituent particles of this mud may agglomerate into a dense rock, such as that formed at Oran, on the shores of the Mediterranean, which is made up of similar materials. Moreover, in the case of freshwater deposits of this kind, it is certain that the action of percolating water may convert the originally soft and friable, fine-grained sandstone into a dense semi-transparent opaline stone, the silicious organized skeletons being dissolved, and the silex re-deposited in an amorphous state. Whether such a metamorphosis as this occurs in submarine deposits, as well as in those formed in fresh water, does not appear; but there seems no reason to doubt that

it may. And hence it may not be hazardous to conclude that very ordinary metamorphic agencies may convert these polar caps into a form of quartzite.

In the great intermediate zone, occupying some 110° of latitude, which separates the circumpolar Arctic and Antarctic areas of silicious deposit, the Diatoms and Radiolaria of the surface water and the sponges of the bottom do not die out, and, so far as some forms are concerned, do not even appear to diminish in total number; though, on a rough estimate, it would appear that the proportion of Radiolaria to Diatoms is much greater than in the colder seas. Nevertheless the composition of the deep-sea mud of this intermediate zone is entirely different from that of the circumpolar regions.

The first exact information respecting the nature of this mud at depths greater than 1,000 fathoms was given by Ehrenberg, in the account which he published in the "Monatsberichte" of the Berlin Academy for the year 1853, of the soundings obtained by Lieut. Berryman, of the United States Navy, in the North Atlantic, between Newfoundland and the Azores.

Observations which confirm those of Ehrenberg in all essential respects have been made by Professor Bailey, myself, Dr. Wallich, Dr. Carpenter, and Professor Wyville Thomson, in their earlier cruises; and the continuation of the *Globigerina* ooze over the South Pacific has been proved by the recent work of the "Challenger," by which it is also shown, for the first time, that, in passing from the equator to high southern latitudes, the number and variety of the *Foraminifera* diminishes, and even the *Globigerina* become dwarfed. And this result, it will be observed, is in entire accordance with the fact already mentioned that, in the sea of Kamtschatka, the deep sea mud was found by Bailey to contain no calcareous organisms.

Thus, in the whole of the "intermediate zone," the silicious deposit which is being formed there, as elsewhere, by the accumulation of sponge-spicula, Radiolaria, and Diatoms, is obscured and overpowered by the immensely greater amount of calcareous sediment, which arises from the aggregation of the skeletons of dead *Foraminifera*. The similarity of the deposit, thus composed of a large percentage of carbonate of lime, and a small percentage

of silex, to chalk, regarded merely as a kind of rock, which was first pointed out by Ehrenberg, is now admitted on all hands; nor can it be reasonably doubted, that ordinary metamorphic agencies are competent to convert the "modern chalk" into hard limestone, or even into crystalline marble.

Ehrenberg appears to have taken it for granted that the *Globigerina* and other *Foraminifera* which are found in the deep-sea mud, live at the great depths in which their remains are found; and he supports this opinion by producing evidence that the soft parts of these organisms are preserved, and may be demonstrated by removing the calcareous matter with dilute acids. In 1857, the evidence for and against this conclusion appeared to me to be insufficient to warrant a positive conclusion one way or the other, and I expressed myself in my report to the Admiralty on Captain Dayman's soundings in the following terms:—

"When we consider the immense area over which this deposit is spread, the depth at which its formation is going on, and its similarity to chalk, and still more to such rocks as the marls of Caltanissetta, the question, whence are all these organisms derived? becomes one of high scientific interest."

"Three answers have suggested themselves:—

"In accordance with the prevalent view of the limitation of life to comparatively small depths, it is imagined either: 1, that these organisms have drifted into their present position from shallower waters; or 2, that they habitually live at the surface of the ocean, and only fall down into their present position.

"1. I conceive that the first supposition is negatived by the extremely marked zoological peculiarity of the deep sea fauna.

"Had the *Globigerina* been drifted into their present position from shallow water, we should find a very large proportion of the characteristic inhabitants of shallow waters mixed with them, and this would the more certainly be the case, as the large *Globigerina*, so abundant in the deep-sea soundings are, in proportion to their size, more solid and massive than almost any other *Foraminifera*. But the fact is that the proportion of other *Foraminifera* is exceedingly small, nor have I found as yet, in the deep-sea deposits, any such matters as fragments of molluscous shells, of *Echini*, &c., which abound in shallow waters, and are quite as likely to be drifted as the heavy *Globigerina*. Again, the relative proportions of young and fully formed *Globigerina* seem inconsistent with the notion that they have travelled far. And it seems difficult to imagine why, had the deposit been accumulated in this way, *Coscinodisci*

should so almost entirely represent the *Diatomaceæ*.

"2. The second hypothesis is far more feasible, and is strongly supported by the fact that many *Polycystina* [*Radiolaria*] and *Coscinodisci* are well known to live at the surface of the ocean. Mr. Macdonald, Assistant-Surgeon of H.M.S. 'Herald,' now in the South-Western Pacific, has lately sent home some very valuable observations on living forms of this kind, met with in the stomachs of oceanic mollusks, and therefore certainly inhabitants of the superficial layer of the ocean. But it is a singular circumstance that only one of the forms figured by Mr. Macdonald is at all like a *Globigerina*, and there are some peculiarities about even this which make me greatly doubt its affinity with that genus. The form, indeed, is not unlike that of a *Globigerina*, but it is provided with long radiating processes, of which I have never seen any trace in *Globigerina*. Did they exist, they might explain what otherwise is a great objection to this view, viz., how is it conceivable that the heavy *Globigerina* should maintain itself at the surface of the water?

"If the organic bodies in the deep-sea soundings have neither been drifted, nor have fallen from above, there remains but one alternative—they must have lived and died where they are.

"Important objections, however, at once suggest themselves to this view. How can animal life be conceived to exist under such conditions of light, temperature, pressure, and aeration as must obtain at these vast depths?

"To this one can only reply that we know for a certainty that even very highly-organized animals do continue to live at a depth of 300 and 400 fathoms, inasmuch as they have been dredged up thence; and that the difference in the amount of light and heat at 400 and at 2000 fathoms is probably, so to speak, very far less than the difference in complexity of organization between these animals and the humbler *Protozoa* and *Protophyta* of the deep-sea soundings.

"I confess, though as yet far from regarding it proved that the *Globigerina* live at these depths, the balance of probabilities seems to me to incline in that direction. And there is one circumstance which weighs strongly in my mind. It may be taken as a law that any genus of animals which is found far back in time is capable of living under a great variety of circumstances as regards light, temperature, and pressure. Now, the genus *Globigerina* is abundantly represented in the cretaceous epoch, and perhaps earlier.

"I abstain, however, at present from drawing any positive conclusions, preferring rather to await the result of more extended observations."

Dr. Wallich, Professor Wyville Thomson, and Dr. Carpenter concluded that the *Globigerina* live at the bottom. Dr. Wallich writes in 1862—"By sinking very fine gauze nets to considerable depths, I

have repeatedly satisfied myself that *Globigerina* does not occur in the superficial strata of the ocean.* Moreover, having obtained certain living star-fish from a depth of 1260 fathoms, and found their stomachs full of "fresh looking *Globigerinæ*" and their debris—he adduces this fact in support of his belief that the *Globigerinæ* live at the bottom.

On the other hand, Müller, Haeckel, Major Owen, Mr. Gwyn Jeffries, and other observers, found that *Globigerina*, with the allied genera *Orbulina* and *Pulvinulina*, sometimes occur abundantly at the surface of the sea, the shells of these pelagic forms being not unfrequently provided with the long spines noticed by Macdonald; and in 1865 and 1866, Major Owen more especially insisted on the importance of this fact. The recent work of the "Challenger" fully confirms Major Owen's statement. In the paper recently published in the proceedings of the Royal Society,† from which a quotation has already been made, Professor Wyville Thomson says:—

"I had formed and expressed a very strong opinion on the matter. It seemed to me that the evidence was conclusive that the Foraminifera which formed the *Globigerina* ooze lived on the bottom, and that the occurrence of individuals on the surface was accidental and exceptional; but after going into the thing carefully, and considering the mass of evidence which has been accumulated by Mr. Murray, I now admit that I was in error; and I agree with him that it may be taken as proved that all the materials of such deposits, with the exception, of course, of the remains of animals which we now know to live at the bottom at all depths, which occur in the deposit as foreign bodies, are derived from the surface.

"Mr. Murray has combined with a careful examination of the soundings a constant use of the tow-net, usually at the surface, but also at depths of from ten to one hundred fathoms; and he finds the closest relation to exist between the surface fauna of any particular locality and the deposit which is taking place at the bottom. In all seas, from the equator to the polar ice, the tow-net contains *Globigerina*. They are more abundant and of a larger size in warmer seas; several varieties, attaining a large size and presenting marked varietal characters, are found in the

intertropical area of the Atlantic. In the latitude of Kerguelen they are less numerous and smaller, while further south they are still more dwarfed, and only one variety, the typical *Globigerina bulloides*, is represented. The living *Globigerina* from the tow-net are singularly different in appearance from the dead shells we find at the bottom. The shell is clear and transparent, and each of the pores which penetrate it is surrounded by a raised crest, the crest round adjacent pores coalescing into a roughly hexagonal network, so that the pores appear to lie at the bottom of a hexagonal pit. At each angle of this hexagon the crest gives off a delicate flexible calcareous spine, which is sometimes four or five times the diameter in length. The spines radiate symmetrically from the direction of the centre of each chamber of the shell, and the sheaves of long transparent needles crossing one another in different directions have a very beautiful effect. The smaller inner chambers of the shell are entirely filled with an orange-yellow granular sarcod; and the large terminal chamber usually contains only a small irregular mass, or two or three small masses run together, of the same yellow sarcod stuck against one side, the remainder of the chamber being empty. No definite arrangement and no approach to structure was observed in the sarcod, and no differentiation, with the exception of round bright-yellow oil-globules, very much like those found in some of the radiolarians which are scattered, apparently irregularly, in the sarcod. We never have been able to detect in any of the large number of *Globigerina* which we have examined, the least trace of pseudopodia, or any extension, in any form, of the sarcod beyond the shell.

¶ "In specimens taken with the tow-net the spines are very usually absent; but that is probably on account of their extreme tenuity; they are broken off by the slightest touch. In fresh examples from the surface, the dots indicating the origin of the lost spines may almost always be made out with a high power. There are never spines on the *Globigerina* from the bottom, even in the shallowest water."

There can now be no doubt, therefore, that *Globigerina* live at the top of the sea; but the question may still be raised whether they do not also live at the bottom. In favor of this view, it has been urged that the shells of the *Globigerinæ* of the surface never possess such thick walls as those which are found at the bottom, but I confess that I doubt the accuracy of this statement. Again, the occurrence of minute *Globigerina* in all stages of development, at the greatest depths, is brought forward as evidence that they live *in situ*. But considering the extent to which the surface organisms are devoured, without discrimination of young

* The "North-Atlantic Sea-bed," p. 137.

† "Preliminary Notes on the nature of the Sea-bottom, procured by the soundings of H.M.S. 'Challenger' during her cruise in the southern seas, in the early part of the year 1874."—Proceedings of the Royal Society, Nov. 26, 1874.

and old, by *Salpæ* and the like, it is not wonderful that shells of all ages should be among the rejectamenta. Nor can the presence of the soft parts of the body in the shells which form the *Globigerina* ooze, and the fact, if it be one, that animals living at the bottom use them as food, be considered as conclusive evidence that the *Globigerinæ* live at the bottom. Such as die at the surface, and even many of those which are swallowed by other animals, may retain much of their protoplasmic matter when they reach the depths at which the temperature sinks to 34° or 32° Fahrenheit, where decomposition must become exceedingly slow.

Another consideration appears to me to be in favor of the view that the *Globigerinae* and their allies are essentially surface animals. This is the fact brought out by the "Challenger's" work, that they have a southern limit of distribution, which can hardly depend upon anything but the temperature of the surface water. And it is to be remarked that this southern limit occurs at a lower latitude in the Antarctic seat than it does in the North Atlantic. According to Dr. Wallich ("The North Atlantic Sea Bed," p. 157) *Globigerina* is the prevailing form in the deposits between the Faroe Islands and Iceland, and between Iceland and East Greenland—or, in other words, in a region of the sea-bottom which lies altogether north of the parallel of 60° N.; while in the southern seas, the *Globigerinae* become dwarfed and almost disappear between 50° and 55° S. On the other hand, in the sea of Kamschatka, the *Globigerinae* have vanished in 56° N., so that the persistence of the *Globigerina* ooze in high latitudes, in the North Atlantic, would seem to depend on the northward curve of the isothermals peculiar to this region; and it is difficult to understand how the formation of *Globigerina* ooze can be affected by this climatal peculiarity unless it be effected by surface animals.

Whatever may be the mode of life of the *Foraminifera*, to which the calcareous element of the deep sea "chalk" owes its existence, the fact that it is the chief and most widely spread material of the sea-bottom in the intermediate zone, throughout both the Atlantic and Pacific Oceans, and the Indian Ocean, at depths from a

few hundred to over two thousand fathoms, is established. But it is not the only extensive deposit which is now taking place. In 1853 Count Poutalès, an officer of the United States Coast Survey, which has done so much for scientific hydrography, observed, that the mud forming the sea-bottom at depths of one hundred and fifty fathoms, in $31^{\circ} 32'$ N., $79^{\circ} 35'$ W., off the Coast of Florida, was "a mixture, in about equal proportions, of *Globigerinae* and black sand, probably greensand, as it makes a green mark when crushed on paper." Professor Bailey, examining these grains microscopically, found that they were casts of the interior cavities of *Foraminifera*, consisting of a mineral known as *Glaucite*, which is a silicate of iron and alumina. In these casts the minutest cavities and finest tubes in the *Foraminifera* were sometimes reproduced in solid counterparts of the glassy mineral, while the calcareous original had been entirely dissolved away.

Contemporaneously with these observations, the indefatigable Ehrenberg had discovered that the "greensands" of the geologist were largely made up of casts of a similar character, and proved the existence of *Foraminifera* at a very ancient geological epoch, by discovering such casts in a greensand of Lower Silurian age, which occurs near St. Petersburg.

Subsequently, Messrs. Parker and Jones discovered similar casts in process of formation, the original shell not having disappeared, in specimens of the sea-bottom of the Australian seas, brought home by the late Professor Jukes. And the "Challenger" has observed a deposit of a similar character in the course of the Agulhas current, near the Cape of Good Hope, and in some other localities not yet defined.

It would appear that this infiltration of *Foraminifera* shells with *Glaucite* does not take place at great depths, but rather in what may be termed a sublittoral region, ranging from a hundred to three hundred fathoms. It cannot be ascribed to any local cause, for it takes place, not only over large areas in the Gulf of Mexico and the Coast of Florida, but in the South Atlantic and in the Pacific. But what are the conditions which determine its occurrence, and whence the silex, the iron, and the alumina (with perhaps potash and some other ingredients in small quan-

tity) of which the *Glauconite* is composed, proceed, is a point on which no light has yet been thrown. For the present we must be content with the fact that, in certain areas of the "intermediate zone," greensand is replacing and representing the primitively calcareo-silicious ooze.

The investigation of the deposits which are now being formed in the basin of the Mediterranean, by the late Professor Edward Forbes, by Professor Williamson, and more recently by Dr. Carpenter, and a comparison of the results thus obtained with what is known of the surface fauna, have brought to light the remarkable fact, that while the surface and the shallows abound with *Foraminifera* and other calcareous shelled organisms, the indications of life become scanty at depths beyond 500 or 600 fathoms, while almost all traces of it disappear at greater depths, and at 1000 to 2000 fathoms the bottom is covered with a fine clay.

Dr. Carpenter has discussed the significance of this remarkable fact, and he is disposed to attribute the absence of life at great depths, partly to the absence of any circulation of the water of the Mediterranean at such depths, and partly to the exhaustion of the oxygen of the water by the organic matter contained in the fine clay, which he conceives to be formed by the finest particles of the mud brought down by the rivers which flow into the Mediterranean.

However this may be, the explanation thus afforded of the presence of the fine mud, and of the absence of organisms which ordinarily live at the bottom, does not account for the absence of the skeletons of the organisms which undoubtedly abound at the surface of the Mediterranean; and it would seem to have no application to the remarkable fact discovered by the "Challenger," that in the open Atlantic and Pacific Oceans, in the midst of the great intermediate zone, and thousands of miles away from the embouchure of any river, the sea-bottom, at depths approaching to and beyond 3000 fathoms, no longer consists of *Globigerina* ooze, but of an excessively fine red clay.

Professor Thomson gives the following account of this capital discovery:—

"According to our present experience, the deposit of *Globigerina* ooze is limited to water of a certain depth, the extreme limit of the pure characteristic formation being placed at

a depth of somewhere about 2250 fathoms. Crossing from these shallower regions occupied by the ooze into deeper soundings, we find, universally, that the calcareous formation gradually passes into, and is finally replaced by, an extremely fine pure clay, which occupies, speaking generally, all depths below 2500 fathoms,⁴ and consists almost entirely of a silicate of the red oxide of iron and alumina. The transition is very slow, and extends over several hundred fathoms of increasing depth; the shells gradually lose their sharpness of outline, and assume a kind of 'rotten' look and a brownish color, and become more and more mixed with a fine amorphous red-brown powder, which increases steadily in proportion until the lime has almost entirely disappeared. This brown matter is in the finest possible state of subdivision, so fine that when, after sifting it to separate any organisms it might contain, we put it into jars to settle, it remained for days in suspension, giving the water very much the appearance and color of chocolate.

"In indicating the nature of the bottom on the charts, we came, from experience and without any theoretical considerations, to use three terms for soundings in deep water. Two of these, Gl. oz. and r. cl., were very definite, and indicated strongly-marked formations, with apparently but few characters in common; but we frequently got soundings which we could not exactly call '*Globigerina* ooze' or 'red clay,' and before we were fully aware of the nature of these, we were in the habit of indicating them as 'grey ooze' (gr. oz.) We now recognize the 'grey ooze' as an intermediate stage between the *Globigerina* ooze and the red clay; we find that on one side, as it were, of an ideal line, the red clay contains more and more of the material of the calcareous ooze, while, on the other, the ooze is mixed with an increasing proportion of 'red clay.'

"Although we have met with the same phenomenon so frequently, that we were at length able to predict the nature of the bottom from the depth of the soundings with absolute certainty for the Atlantic and the Southern Sea, we had, perhaps, the best opportunity of observing it in our first section across the Atlantic, between Teneriffe and St. Thomas. The first four stations on this section, at depths from 1,525 to 2,220 fathoms, show *Globigerina* ooze. From the last of these, which is about 300 miles from Teneriffe, the depth gradually increases to 2,740 fathoms at 500, and 2,950 fathoms at 750 miles from Teneriffe. The bottom in these two soundings might have been called 'grey ooze,' for although its nature has altered entirely from the *Globigerina* ooze, the red clay into which it is rapidly passing still contains a considerable admixture of carbonate of lime.

"The depth goes on increasing to a distance of 1,150 miles from Teneriffe, when it reaches 3,150 fathoms; there the clay is pure and smooth, and contains scarcely a trace of lime. From this great depth the bottom gradually rises, and, with increasing depth, the grey color and the calcareous composition of the ooze return. Three soundings in 2,050, 1,900,

and 1,950 fathoms on the 'Dolphin Rise' gave highly characteristic examples of the *Globigerina* formation. Passing from the middle plateau of the Atlantic into the western trough, with depths a little over 3,000 fathoms, the red clay returned in all its purity; and our last sounding, in 1,420 fathoms, before reaching Sombrero, restored the *Globigerina* ooze with its peculiar associated fauna.

"This section shows also the wide extension and the vast geological importance of the red clay formation. The total distance from Teneriffe to Sombrero is about 2,700 miles. Proceeding from east to west, we have—

About 80 miles of volcanic mud and sand,	
" 350 "	<i>Globigerina</i> ooze,
" 1,050 "	red clay,
" 330 "	<i>Globigerina</i> ooze,
" 850 "	red clay,
" 40 "	<i>Globigerina</i> ooze;

giving a total of 1,900 miles of red clay to 720 miles of *Globigerina* ooze.

"The nature and origin of this vast deposit of clay is a question of the very greatest interest; and although I think there can be no doubt that it is in the main solved, yet some matters of detail are still involved in difficulty. My first impression was that it might be the most minutely divided material, the ultimate sediment produced by the disintegration of the land, by rivers and by the action of the sea on exposed coasts, and held in suspension and distributed by ocean currents, and only making itself manifest in places unoccupied by the *Globigerina* ooze. Several circumstances seemed, however, to negative this mode of origin. The formation seemed too uniform: wherever we met with it, it had the same character, and it only varied in composition in containing less or more carbonate of lime.

"Again, we were gradually becoming more and more convinced that all the important elements of the *Globigerina* ooze lived on the surface, and it seemed evident that, so long as the condition on the surface remained the same, no alteration of contour at the bottom could possibly prevent its accumulation; and the surface conditions in the Mid-Atlantic were very uniform, a moderate current of a very equal temperature passing continuously over elevations and depressions, and everywhere yielding to the tow-net the ooze-forming *Foraminifera* in the same proportion. The Mid-Atlantic swarms with pelagic *Mollusca*, and, in moderate depths, the shells of these are constantly mixed with the *Globigerina* ooze, sometimes in number sufficient to make up a considerable portion of its bulk. It is clear that these shells must fall in equal numbers upon the red clay, but scarcely a trace of one of them is ever brought up by the dredge on the red clay area. It might be possible to explain the absence of shell-secreting animals living on the bottom, on the supposition that the nature of the deposit was injurious to them; but then the idea of a current sufficiently strong to sweep them away is negatived by the extreme fineness of the sediment which is being laid down; the absence of surface shells appears to be intelligible only on the

supposition that they are in some way removed.

"We conclude, therefore, that the 'red clay' is not an additional substance introduced from without, and occupying certain depressed regions on account of some law regulating its deposition, but that it is produced by the removal, by some means or other, over these areas, of the carbonate of lime, which forms probably about 98 per cent. of the material of the *Globigerina* ooze. We can trace, indeed, every successive stage in the removal of the carbonate of lime in descending the slope of the ridge or plateau where the *Globigerina* ooze is forming, to the region of the clay. We find first, that the shells of pteropods and other surface *Mollusca* which are constantly falling on the bottom, are absent, or, if a few remain, they are brittle and yellow, and evidently decaying rapidly. These shells of *Mollusca* decompose more easily and disappear sooner than the smaller, and apparently more delicate, shells of rhizopods. The smaller *Foraminifera* now give way, and are found in lessening proportion to the larger; the coccoliths first lose their thin outer border and then disappear; and the clubs of the rhabdoliths get worn out of shape, and are last seen, under a high power, as infinitely minute cylinders scattered over field. The larger *Foraminifera* are attacked, and instead of being vividly white and delicately sculptured, they become brown and worn, and finally they break up, each according to its fashion; the chamber-walls of *Globigerina* fall into wedge-shaped pieces, which quickly disappear, and a thick rough crust breaks away from the surface of *Orbulina*, leaving a thin inner sphere, at first beautifully transparent, but soon becoming opaque and crumbling away.

"In the meantime the proportion of the amorphous 'red clay' to the calcareous elements of all kinds increases, until the latter disappear, with the exception of a few scattered shells of the larger *Foraminifera*, which are still found even in the most characteristic samples of the 'red clay.'

"There seems to be no room left for doubt that the red clay is essentially the insoluble residue, the ash, as it were, of the calcareous organisms which form the *Globigerina* ooze, after the calcareous matter has been by some means removed. An ordinary mixture of calcareous *Foraminifera* with the shells of pteropods, forming a fair sample of *Globigerina* ooze from near St. Thomas, was carefully washed, and subjected by Mr. Buchanan to the action of weak acid; and he found that there remained, after the carbonate of lime had been removed, about 1 per cent. of a reddish mud, consisting of silica, alumina, and the red oxide of iron. This experiment has been frequently repeated with different samples of *Globigerina* ooze, and always with the result that a small proportion of a red sediment remains, which possesses all the characters of the red clay."

"It seems evident from the observations here recorded, that clay, which we have hitherto looked upon as essentially the product of

the disintegration of older rocks, may be, under certain circumstances, an organic formation like chalk; that, as a matter of fact, an area on the surface of the globe, which we have shown to be of vast extent, although we are still far from having ascertained its limits, is being covered by such a deposit at the present day.

"It is impossible to avoid associating such a formation with the fine, smooth homogeneous clays and schists, poor in fossils, but showing worm-tubes and tracks, and bunches of doubtful branching things, such as Oldhamia, silicious sponges, and thin-shelled peculiar shrimps. Such formations, more or less metamorphosed, are very familiar, especially to the student of palæozoic geology, and they often attain a vast thickness. One is inclined, from the great resemblance between them in composition and in the general character of the included fauna, to suspect that these may be organic formations, like the modern red clay of the Atlantic and Southern Sea, accumulations of the insoluble ashes of shelled creatures.

"The dredging in the red clay on the 13th of March was unusually rich. The bag contained examples, those with calcareous shells rather stunted, of most of the characteristic deep-water groups of the Southern Sea, including *Umbellularia*, *Euplectella*, *Pterocrinus*, *Brisinga*, *Ophioglypha*, *Pourtaleisia*, and one or two *Molusca*. This is, however, very rarely the case. Generally the red clay is barren, or contains only a very small number of forms."

It must be admitted that it is very difficult at present to frame any satisfactory explanation of the mode of origin of this singular deposit of red clay.

I can not say that the theory put forward tentatively, and with much reservation by Professor Thomson, that the calcareous matter is dissolved out by the relatively fresh water of the deep currents from the Antarctic regions, appears satisfactory to me. Nor do I see my way to the acceptance of the suggestion of Dr. Carpenter, that the red clay is the result of the decomposition of previously-formed greensand. At present there is no evidence that greensand casts are ever formed at great depths; nor has it been proved that *Glaucite* is decomposable by the agency of water and carbonic acid.

I think it probable that we shall have to wait some time for a sufficient explanation of the origin of the abyssal red clay, no less than for that of the sublittoral greensand in the intermediate zone. But the importance of the establishment of the fact that these various deposits are being formed in the ocean, at the present day, remains the same, whether its *rationale* be understood or not.

For, suppose the globe to be evenly covered with sea, to a depth say of a thousand fathoms—then, whatever might be the mineral matter composing the sea-bottom, little or no deposit would be formed upon it, the abrading and denuding action of water, at such a depth, being exceedingly slight. Next, imagine sponges, *Radiolaria*, *Foraminifera*, and diatomaceous plants, such as those which now exist in the deep-sea, to be introduced: they would be distributed according to the same laws as at present, the sponges (and possibly some of the *Foraminifera*) covering the bottom, while other *Foraminifera*, with the *Radiolaria* and *Diatomaceæ*, would increase and multiply in the surface waters. In accordance with the existing state of things, the *Radiolaria* and Diatoms would have a universal distribution, the latter gathering most thickly in the polar regions, while the *Foraminifera* would be largely, if not exclusively, confined to the intermediate zone; and, as a consequence of this distribution, a bed of "chalk" would begin to form in the intermediate zone, while caps of silicious rock would accumulate on the circumpolar regions.

Suppose, further, that a part of the intermediate area were raised to within two or three hundred fathoms of the surface—for anything that we know to the contrary, the change of level might determine the substitution of greensand for the "chalk;" while, on the other hand, if part of the same area were depressed to three thousand fathoms, that change might determine the substitution of a different silicate of alumina and iron—namely, clay—for the "chalk" that would otherwise be formed.

If the "Challenger" hypothesis, that the red clay is the residue left by dissolved *Foraminiferous* skeletons, is correct, then all these deposits alike would be directly, or indirectly, the product of living organisms. But just as a silicious deposit may be metamorphosed into opal or quartzite, and chalk into marble, so known metamorphic agencies may metamorphose clay into schist, clay-slate, slate, gneiss, or even granite. And thus, by the agency of the lowest and simplest of organisms, our imaginary globe might be covered with strata, of all the chief kinds of rock of which the known crust of the earth is composed, of indefinite thickness and extent.

The bearing of the conclusions which

are now either established, or highly probable, respecting the origin of silicious, calcareous, and clayey rocks, and their metamorphic derivatives, upon the archaeology of the earth, the elucidation of which is the ultimate object of the geologist, is of no small importance.

A hundred years ago the singular insight of Linnæus enabled him to say that "fossils are not the children but the parents of rocks,"* and the whole effect of the discoveries made since his time has been to compile a larger and larger commentary upon this text. It is, at present, a perfectly tenable hypothesis that all silicious and calcareous rocks are either directly, or indirectly, derived from material which has, at one time or other, formed part of the organized framework of living organisms. Whether the same generalization may be extended to aluminous rocks, depends upon the conclusion to be drawn from the facts respecting the red clay areas brought to light by the "Challenger." If we accept the view taken by Wyville Thomson and his colleagues—that the red clay is the residuum left after the calcareous matter of the *Globigerina* ooze has been dissolved away—then clay is as much a product of life as limestone, and all known derivatives of clay may have formed part of animal bodies.

So long as the *Globigerinae*, actually collected at the surface, have not been demonstrated to contain the elements of clay, the "Challenger" hypothesis, as I may term it, must be accepted with reserve and provisionally, but, at present, I cannot but think that it is more probable than any other suggestion which has been made.

Accepting it provisionally, we arrive at the remarkable result that all the chief known constituents of the crust of the earth may have formed part of living bodies; that they may be the "ash" of pro-

toplasm; that the "*rupes saxei*" are not only "*temporis*," but "*vite filiae*"; and, consequently, that the time during which life has been active on the globe may be indefinitely greater than the period, the commencement of which is marked by the oldest known rocks, whether fossiliferous or unfossiliferous.

And thus we are led to see where the solution of a great problem and apparent paradox of geology may lie. Satisfactory evidence now exists that some animals in the existing world have been derived by a process of gradual modification from pre-existing forms. It is undeniable, for example, that the evidence in favor of the derivation of the horse from the later tertiary *Hipparium*, and that of the *Hipparium* from *Anchitherium*, is as complete and cogent as such evidence can reasonably be expected to be; and the further investigations into the history of the tertiary mammalia are pushed, the greater is the accumulation of evidence having the same tendency. So far from palæontology lending no support to the doctrine of evolution—as one sees constantly asserted—that doctrine, if it had no other support, would have been irresistibly forced upon us by the palæontological discoveries of the last twenty years.

If, however, the diverse forms of life which now exist have been produced by the modification of previously-existing less divergent forms, the recent and extinct species, taken as a whole, must fail into series which must converge as we go back in time. Hence, if the period represented by the rocks is greater than, or co-extensive with, that during which life has existed, we ought, somewhere among the ancient formations, to arrive at the point to which all these series converge, or from which, in other words, they have diverged—the primitive undifferentiated protoplasmic living things, whence the two great series of plants and animals have taken their departure.

But, as a matter of fact, the amount of convergence of series, in relation to the time occupied by the deposition of geological formations, is extraordinarily small. Of all animals the higher *Vertebrata* are the most complex; and among these the carnivores and hooved animals (*Ungulata*) are highly differentiated. Nevertheless, although the different lines of modification of the *Carnivora* and those of the *Ungu-*

* "Petrificata montium calcariorum non filii sed parentes sunt, cum omnia calx oritur ab animalibus." "Systema Naturæ" Ed. xii., t. iii., p. 154. It must be recollect that Linnæus included silex, as well as limestone, under the name of "calx," and that he would probably have arranged Diatoms among animals, as part of "chaos." Ehrenberg quotes another even more pithy passage, which I have not been able to find in any edition of the "Systema" accessible to me: "Sic lapides ab animalibus, nec vice versa. Sic rupes saxei non primævi, sed temporis filiae."

lata, respectively, approach one another, and, although each group is represented by less differentiated forms in the older tertiary rocks than at the present day, the oldest tertiary rocks do not bring us near the primitive form of either. If, in the same way, the convergence of the varied forms of reptiles is measured against the time during which their remains are preserved—which is represented by the whole of the tertiary and mesozoic formations—the amount of that convergence is far smaller than that of the lines of mammals, between the present time and the beginning of the tertiary epoch. And it is a broad fact that, the lower we go in the scale of organization, the fewer signs are there of convergence towards the primitive form from whence all must have diverged, if evolution be a fact. Nevertheless, that it is a fact in some cases, is proved, and I, for one, have not the courage to suppose that the mode in which some species have taken their origin is different from that in which the rest have originated.

What, then, has become of all the marine animals which, on the hypothesis of evolution, must have existed in myriads in those seas, wherein the many thousand feet of Cambrian and Laurentian rocks now devoid, or almost devoid, of any trace of life were deposited?

Sir Charles Lyell long ago suggested that the azoic character of these ancient formations might be due to the fact that they had undergone extensive metamorphosis; and readers of the "Principles of Geology" will be familiar with the ingenious manner in which he contrasts the theory of the Gnome, who is acquainted only with the interior of the earth, with those of ordinary philosophers, who know only its exterior.

The metamorphism contemplated by the great modern champion of rational geology is, mainly, that brought about by the exposure of rocks to subterranean heat, and where no such heat could be shown to have operated, his opponents assumed that no metamorphosis could have taken place. But the formation of greensand, and still more that of the "red clay" (if the "Challenger" hypothesis be correct) affords an insight into a new kind of metamorphosis—not igneous, but aqueous—by which the primitive nature of a deposit may be masked as completely as it can be by the agency of heat. And, as

Wyville Thomson suggests, in the passage I have quoted above (p. 17), it further enables us to assign a new cause for the occurrence, so puzzling hitherto, of thousands of feet of unfossiliferous fine-grained schists and slates, in the midst of formations deposited in seas which certainly abounded in life. If the great deposit of "red clay" now forming in the eastern valley of the Atlantic were metamorphosed into slate and then upheaved, it would constitute an "azoic" rock of enormous extent. And yet that rock is now forming in the midst of a sea which swarms with living beings, the great majority of which are provided with calcareous or silicious shells and skeletons, and therefore are such as, up to this time, we should have termed eminently preservable.

Thus the discoveries made by the "Challenger" expedition, like all recent advances in our knowledge of the phenomena of biology, or of the changes now being affected in the structure of the surface of the earth, are in accordance with, and lend strong support to, that doctrine of Uniformitarianism, which, fifty years ago, was held only by a small minority of English geologists—Lyell, Scrope, and De la Beche—but now, thanks to the long-continued labors of the first two, and mainly to those of Sir Charles Lyell, has gradually passed from the position of a heresy to that of catholic doctrine.

Applied within the limits of the time registered by the known fraction of the crust of the earth, I believe that uniformitarianism is unassailable. The evidence that, in the enormous lapse of time between the deposition of the lowest Laurentian strata and the present day, the forces which have modified the surface of the crust of the earth, were different in kind, or greater in the intensity of their action, than those which are now occupied in the same work, has yet to be produced. Such evidence as we possess all tends in the contrary direction, and is in favor of the same slow and gradual changes occurring then as now.

But this conclusion in no wise conflicts with the deductions of the physicist from his no less clear and certain data. It may be certain that this globe has cooled down from a condition in which life could not have existed; it may be certain that, in so cooling, its contracting crust must have undergone sudden convulsions, which were

to our earthquakes as an earthquake is to the vibration caused by the periodical eruption of a Geyser; but in that case the earth must, like other respectable parents, have sowed her wild oats, and got through her turbulent youth, before we, her children, have any knowledge of her.

So far as the evidence afforded by the superficial crust of the earth goes, the modern geologist can, *ex animo*, repeat the saying of Hutton, "We find no

vestige of a beginning—no prospect of an end." However, he will add, with Hutton, "But in thus tracing back the natural operations which have succeeded each other, and mark to us the course of time past, we come to a period in which we cannot see any further." And if he seek to peer into the darkness of this period, he will welcome the light proffered by physics and mathematics.—*Contemporary Review.*

THE SIEGE OF FLORENCE.

MEDIEVAL Florence was the scene of endless revolutions, attended by all that has rendered the word a terror. In the course of time the wiser Florentines learnt to think of taking shelter from the tyranny of faction under the rule of a single prince. Nor, during the greater portion of the fifteenth century, was there much doubt as to whence that prince was to come. Such influence had been acquired for the house of Medici by its great wealth and a succession of singularly able chiefs, that all the errors of the son of "the Magnificent" merely delayed for a generation the recognition of his family as the hereditary lords of Florence.

With the attainment of supremacy in their native city, the Medici seem to have lost for a while their commanding ability. Clement VII., the head of the family, A.D. 1521-34, perpetrated many gross political mistakes. He selected for successor a youth of birth as questionable as the heir of Olivarez, and thus alienated his relatives. He endeavored to rule as a prince rather than as a party chief, and thereby drove the aristocracy into fierce opposition. His necessities compelled him to impose heavy taxes, and this lost him the affections of the masses. Finally, his character, no less than his cloth, rendered him averse to severity, and thus, while abundantly hated, he was not at all dreaded.

The capture of Rome by the followers of Bourbon was followed at once by revolution at Florence. Not a voice was raised in favor of the Medici, for the leaders of the movement were all noble. Eventually these leaders had no

great reason to congratulate themselves on their handiwork. Like all men of high birth, they proved but indifferent demagogues, and disgusted the people from the outset by their moderation. Their popularity, therefore, and with it their share of power, dwindled rapidly to nothing.

Thanks to the events which disabled the Pope and drew the attention of Charles V. to other quarters, the Florentine revolt was allowed full swing for the next two years, and innumerable were its fantastic pranks. The most astonishing experiments were tried with the machinery of government, and the most startling laws enacted. Conspicuous among the latter were the religious ones. Capponi, the leader of the primary revolutionists, being a man of decidedly serious views, took it into his head, at an early period, to make the whole community as sternly moral as himself—by statute. The time was not badly chosen. It was the period of Luther, and the religious questions of the day were as keenly debated at Florence as elsewhere. Capponi's whim, therefore, met with extraordinary success. He proposed that the Saviour should be declared King of Florence, and the thing was done in magnificent form. And he brought forward numerous laws against vanity, luxury, profanity, intemperance, etc., all of which were enthusiastically carried. Capponi was re-elected gonfalonier, an unprecedented thing at Florence, to be violently thrust from office three months afterwards. But his successors felt bound, in deference to public opinion, to carry out the moral rule which he had instituted. They, too,

punished swearing, prohibited gambling (pensioning a cardmaker, whose trade had been ruined thereby), shut up the taverns, and employed itinerant preachers to hold forth in the thoroughfares. But in the midst of their religious fervor they did not omit to frame a law which enabled the authorities to dispose of political criminals with such hideous rapidity, that he who walked free and fearless at noon, was frequently arrested, tried—that is to say, tortured—and beheaded before sunset!

At the outset of her revolt, Florence plunged headlong into the war on the side of France. This was a senseless step. A French alliance was notoriously fatal to the Italians of that era. And, besides, the French monarch was then actually in league with the Pope, whose authority the Florentines had just discarded. But the emblem of Florence was a lily; that of France was also a lily; and a prophet had declared that "lily with lily must always flourish." For this reason the excellent democracy of Florence plunged heart and soul into the French alliance. So long as the French armies were in the neighborhood the Florentines supplied them liberally with money and recruits. But one of these armies was exterminated at Naples; and another—the last which France sent into Italy for many a day—was destroyed at Landriano, June 21, 1529. Clearly the lilies had not flourished together; and one of them was destined to prove even more fortunate alone.

Shortly after Landriano, the Pope and the Emperor came to an understanding, and joined forces, with the view of recovering the plunder that had been seized by various little princelings during their quarrel. This was no very censurable step. Few of the said princelings had any right to the said plunder. The other Italian States, who had taken part in the French league, saw how things were likely to go, and made peace with the conqueror on tolerably easy terms. And Florence might have done the same had not the government by this time fallen into the hands of stump-orators and men of broken fortune; the chief magistrate of the day, Francesco Carducci, having been twice a bankrupt in the course of no very long career as small tradesman. Peace was

about the last thing to be desired by gentry like these. It was not unlikely to send a few of them to the gallows, and it was certain to hurl the whole unsavory phalanx from power into their original penniless obscurity. War, on the other hand, was not very promising in prospect. But it might prove successful: and whatever the event, it was sure to secure them in place and affluence so long as it might last. So this worshipful seigneurie resolved that by hook or by crook war should go on. Thus felt not a few of their fellow-citizens, and the prudent at once shut up shop and emigrated; even though the precious government had put on an appearance of moderation, and despatched an embassy to Charles V., who was by this time in Italy.

This embassy was chiefly composed of good men and true, since such a monarch was not likely to pay much attention to mere stump-orators. But the necessary powers were withheld, and the good men and true were besprinkled with people on whom Carducci and his confederates could thoroughly rely. The Emperor was in daily apprehension of a Turkish invasion of his German dominions, and the Pope had no wish to ruin what he considered his patrimony by war and siege. The potentates, therefore, offered terms so favorable that the ambassadors despatched one of their number to Florence to lay them before the council and entreat their acceptance. Had this been done, it is pretty certain that an accommodation would have ensued. But the messenger was an agent of Carducci's, and at his request he suppressed the true terms, and submitted totally false ones to the council! We need not characterize the trick: it oozed out shortly afterwards. But Carducci and his confederates were popular favorites, and a favorite of the people is a monarch that "can do no wrong." After this there could be no hope of peace. So Charles thought; and he ordered his lieutenant, the Prince of Orange, who then commanded in Naples, to begin the war at once, and push it vigorously. The embassy, however, still haunted the Pope, fed him up with hopes of a peaceful termination of the difficulties between himself and his townsmen, and thus induced him to

hamper the movements of the Prince until the Florentines were ready to meet him sword in hand. Then they threw off the mask, grossly insulted Clement at a public audience, and were dismissed to return no more.

Florence was soon ready for war. Vast sums were raised, much by heavy taxation, and much by other means. From time to time a score or two of the wealthy citizens—bad or lukewarm patriots, of course—were selected by the government, and forced to lend a large amount to the State. And the property of those who persisted in absenting themselves, after due notice, was confiscated and brought to the hammer: as most of this property was disposed of much below its value, there was no lack of purchasers; and every one who bought became thenceforth bound up with the revolt. With the money thus raised munitions were provided, forces raised, and the fortifications repaired.

By the end of August, 1529, the Prince of Orange was on the march for Tuscany, at the head of 16,000 men. Less than half of this force consisted of old soldiers. The rest were new levies, chiefly from Calabria. Few of them, however, could be termed raw recruits; for the constant feuds of this country had habituated them to war, and they were commanded by chiefs capable of moulding far more unpromising materials into good soldiers. This was a powerful army, as armies then went. The Florentines, however, had one of twice its numbers, and hardly inferior materials. One third consisted of urban and city militia, who were sure to fight fiercely in defence of their hearths. Another third was formed of the remnants of the celebrated black bands of Giovanni de' Medici, recruited from Arezzo and the hills thereabouts—a neighborhood reputed to provide the best native warriors. The rest were bands of free lances, mostly the property of Italian nobles, Malatesta, the gouty old lord of Perugia, heading the largest company, of 5,000 men. And as the Florentines were well provided with money—a thing in which their opponents were notoriously deficient—their troops were far better equipped.

The Arno cuts Florence in two, and the Prince of Orange immediately seized

ed and entrenched the commanding points to the south. But Florence was then one of the great cities of the earth, and his army was far too weak to invest even that section of it with any completeness. As for the northern side, it remained unmolested, except by a few weak partisans, for several months longer. No sooner, however, was it evident that the Florentines meant to abide, and the Prince to press a siege, than recruits began to pour into his camp. Every Italian noble of that day had numerous feudal and personal foes, and every man who owed a grudge to any of the free lances within the beleaguered walls, took service with the Prince. Florence, too, was a city well worth sacking. So those excellent recruiting officers—the thirst for plunder and the thirst for vengeance—continued to swell the pontifico-imperial ranks until towards the close of the siege they numbered full 50,000 men. This, however, was not a circumstance on which such a chief as the Prince either could or would calculate; and as the skirmishes in which the daring of the garrison daily involved his men, cost him more blood than he could afford as yet to lose, and as no amount of artillery that he could collect was likely to make any serious impression on those ramparts, he determined, if possible, to bring the matter to a speedy issue in another way.

From time immemorial the Florentines had been accustomed to hold high festival on the 10th of November—St. Martin's Eve. And they were too proud and confident to abate one jot of their merriment in the face of a foe. The day, therefore, was spent most uproariously. The night came dark and rainy; the camp subsided into silence; and so, but far more slowly, did the town. Every light was extinguished at length, and not a sound was to be heard save the ceaseless patter of the rain. "Now, Madame Florence," said the Prince of Orange, "get ready your brocades, for by sunrise to-morrow we mean to measure them with our spears." The dull smothered tread of many feet followed the remark, and without other sound, like a dense cloud through the dreary midnight, the army moved from its entrenchments to the assault. Three-fourths of the distance was traversed,

not a leader spoke, not a sword clanked, not a whisper rose from the ranks : Florence gave no sign of alarm. The misty host drew nearer, holding its breath as it gave its flanks to the outworks. There were four hundred scaling-ladders in the van, and ten thousand desperadoes ready to climb them. Two minutes more would see the ramparts won. A broad red flash leapt out into the darkness from a neighboring bastion. Fifty men fell ; a rattling peal drowned their death-cry, and in an instant the long line of the works in front was bright with torches and alive with armed men. Then came the rush of battle and the uproar. The veterans of a hundred battles, the victors of Pavia, the plunderers of Rome, planted their ladders and threw themselves against the ramparts. In vain : some were slaughtered with the sword, others were pelted with boiling oil, Greek fire, beams, tiles, and every conceivable missile. Not a man could mount that terrible wall. So the trumpet wailed the retreat, and the baffled multitude withdrew, leaving five hundred of their bravest behind them.

Florence was not to be surprised, and it was certainly not to be battered into submission. Nothing but a strict blockade could reduce it, and until reinforcements should render that operation practicable, the Prince resolved to devote his attention to certain troublesome partisans. The principal of these was a churchman. Witnessing the sack of Rome, this man swore a vendetta against the perpetrators, which he took good care to keep. Wherever there was a chance of striking a blow at the sacrilegious robbers, thither sped the Abbot of Farfá and his merciless cutthroats. And when Florence decided on hostility, the excellent clergyman rushed up to avenge the Pope by slaughtering his soldiers. In order that there may be no mistake as to his nationality, we beg to state that the Abbot of Farfá was by birth and long descent—an Italian. He performed his self-appointed task with singular audacity and success. But what rendered him most terrible was an ugly habit of torturing his prisoners to death after the manner of the American aborigines, and a still more ugly habit of exposing the remains of his victims in

ingeniously hideous attitudes. After a weary chase—skilfully conducted, and a stubborn fight—gallantly contested, the wild priest was taken, and his band destroyed. As for the man himself, Papal commanders could hardly slay such a devoted adherent of the Papacy. So they clapped him in prison until they reasoned him out of his illogical method of taking vengeance, and then turned him loose again to exercise his recently acquired tastes upon the Florentines.

A large detachment was needed for this man-hunt. The second night after its departure, the imperial army was reposing in its usual reckless style. The sentinels were few and careless, and the officers of the watch, like the Prince, were most of them employed in gaming, and not a few, like the Prince, with their soldiers' pay. For Philibert, during this very siege, nearly produced a mutiny by losing the whole contents of the military chest at play. Such, however, was then the custom among captains—more than one sovereign, like Francis I., finding himself compelled to place the offence among those whose punishment was death. About midnight a terrific clamor burst out in a distant quarter of the camp. The Prince and his captains mounted in haste, and galloped to the scene, to be enveloped and swept along by the foremost wave of a torrent of fugitives that augmented every instant ; for behind, in fierce pursuit, was the best soldier in the Florentine garrison—Stefano Colonna—and three thousand daring swordsmen. Colonna had crept out in the night, with these attendants, to pay a flying visit to his cousin and mortal foe, an officer of rank in the imperial camp. The cousin, fortunately for himself, was absent, but his command was surprised and nearly annihilated ; and Colonna, following up his stroke with admirable skill and vigor, was now rolling up the whole long line of the besiegers. Unfortunately, he was not properly seconded. There was no commander-in-chief in Florence, and no unity of purpose in its military measures. Every captain there did pretty much as he pleased. The present sally was Colonna's own idea, and its promise was far too brilliant for that powerful principle—envy—to allow his brother officers to

second him as they might and should have done. By desperate efforts on the part of the Prince and his lieutenants, the destroying column was at length arrested in its course, and by sheer weight of numbers pushed back into the town, but not until it had wrought great havoc in the imperial lines, killing 400 men and wounding 900 more. And all with the sword; for Colonna, like the thorough soldier that he was, had forbidden his followers to carry any other weapon.

The sally was repelled, but the disaster was hardly less serious to Philibert. His soldiers, who subsisted chiefly by plunder, and who were held together, in a great measure, by the hope of sacking the city, threw off the bonds of discipline and roved the country by troops. Many towns, too, encouraged by the news which spread far and wide, losing nothing as it went, rose and slaughtered their garrisons. Had there been a worthy chief, or even a healthy spirit in Florence, the siege might have been raised at any time during the ensuing month. For the Imperialists would not have stood against a vigorous effort, and as there was nothing to prevent the re-occupation of the mountain forts behind them—hardly a man could have escaped. But Carducci and his colleagues were not the men for the occasion. Like all mere demagogues, they dared not venture on any strong measure until public opinion had pronounced. And the Florentines were then too busy with their great annual election, to care for anything beyond the walls. The Prince, therefore, had ample time to restore the spirit of his army, and make good his losses.

In December 1529, Carducci ceased to be a gonfalonier. But he retained all his former influence, having been appointed chief of the three who composed the committee of war. Besides, the new gonfalonier, Girolami—a vapid, violent declaimer, of no decided character—was completely under his control.

The government now found it necessary—chiefly to satisfy the soldiery—to appoint a commander-in-chief. As usual in such cases, the man of highest rank, Malatesta, was selected. They could not have made a worse choice. He was valiant, skilful, and of vast warlike experience, but he was altogether

untrustworthy. Being a feudal chief, he had no sympathy with the Florentine traders, and as his domains lay within the Papal territories, there were many reasons why he should conciliate the Pope. Indeed, he had already come to an understanding with Clement; the gist of it was that the siege was not to be raised, that on no account were the Imperialists to be allowed decided success, and that matters were to be so managed as to bring about the termination of the war by a capitulation between Clement and the citizens. Malatesta's appointment took place towards the end of January 1530. It was accompanied by a great deal of noisy show, and, therefore, delighted the people.

By this time the army of the Prince had so largely augmented that he was enabled to stretch his blockade round the northern portion of the city also. But not very strictly at first; and the few garrisons which the Florentines still maintained without continued to introduce convoys of provisions for several weeks longer without much difficulty. Nor did the Imperialists offer any opposition to the egress of individuals—that is, if they could manage to evade the strict watch maintained at the gates. Indeed, the coronation of Charles V. taking place in February, a large number of the show-loving Florentines actually obtained permission to pass the blockading lines in order to witness the ceremony. Charles, however, left Italy immediately afterwards, and as the Pope had now given up all hope of an amicable arrangement, the Prince of Orange received orders to press the siege in earnest, and the mildness of the investment terminated.

This period of the strife opened with a chivalrous incident. Ludovico Martelli and Giovanni Bandini had been conspicuous amongst the ardent youths who took part in the first revolutionary movements. The latter was the Admirable Crichton of his sphere, and as a natural consequence of his extra allowance of brains, his republicanism cooled with the progress of events, until he was now, with many another high-born Florentine, in arms against the city. Not so his friend, who had developed into one of the wildest of the democrats.

In neither case, however, was this divergence altogether the result of political convictions. The preference of the beautiful Maria Ricci had something to do with it. She was an ardent Palleschi, and, therefore, the two suitors, particularly the rejected one, Martelli, took opposite sides with a little more fervor than they might otherwise have shown. The lady remained in the city, and Martelli, very unwisely, omitted no opportunity of seeing her. On one of these occasions, she treated him to a set homily on the numerous perfections of Bandini, dwelling especially on his knightly accomplishments. "I hope soon to show you that I am not so inferior to him even in these things as you seem to suppose," replied Martelli. Next morning a challenge, drawn up in proper form, was despatched with a flag of truce to Bandini. It was accepted by the latter with a reluctance that did him no discredit, and, after a tedious negotiation, the details of the duel were arranged. It was to take place on Saturday, the 12th March, to be a fight of two against two, the weapons swords, the manner on foot, and the Prince of Orange to provide and keep the lists. The last consisted of an enclosure of sufficient size, divided into two by a rope stretched across it, for it was agreed that the parties were not to assist each other in the fight. At the appointed hour the champions made their appearance, and were led into the *champ clos* with all the usual minute forms. Martelli was accompanied by a pronounced republican of mature years, Dante Castiglione; and Bandini had for friend a mere youth, one of the pupils of the sculptor El Piffero. Each had his head bare, was clad in hose and shirt, the latter having the right sleeve cut off at the elbow, and wore an iron gauntlet on the right hand. Bandini had provided the weapons, and the challengers were allowed first choice. The former bending back his blade, as if to prove it, snapped it in two between his fingers. A dispute ensued, Bandini's friends pressing to have the broken weapon replaced, and Martelli's opposing the proposition as against the laws and usages of the duello; and as the umpires allowed it to be correct, Bandini was compelled to fight with the stump. The

two encounters began at the same moment, but that between the seconds was the first decided. The young artist immediately received two wounds, one on the sword arm and the other on the face. These he quickly repaid with three, one of them a severe one through the right arm. The advantage was now with him, for Castiglione was compelled to grasp his sword with both hands. But the youth lost his temper, made a blind rush, and received a terrible thrust, which penetrated through the mouth to the brain. He screamed, dropped his weapon, and falling headlong, rolled over and over in agony, being removed from the lists to die the same evening.

Castiglione turned to see how the battle went with his friend. It was a sickening sight. Martelli rushed blindly at Bandini; the latter sprang aside and cut him over the head. This was repeated many times. Martelli next grasped his antagonist's sword, who drew it through his fingers, gashing them fearfully. He then attempted to parry Bandini's strokes with his left arm; and so the fight went on until he was covered with wounds and blinded with blood. As a last effort he planted the hilt of his weapon against his breast, and rushed desperately forward. But Bandini easily avoided the onslaught, and dealing him a last stroke over the head, called on him to surrender. Martelli had no alternative; he spoke the fatal word, and was carried away even more wounded in mind than body. As for his antagonist, he received only two slight hurts. The lady paid one visit to the defeated champion; but, as she had been compelled to take this step much against her will, it did more mischief than good. Three weeks after, Martelli died.

One on each side having fallen, the victory was ascribed to neither—a decision that sorely puzzled the superstitious, who had looked upon the duel from the first as symbolic of the war and its issue.

Another week passed, and then, for the first time since the opening of the siege, the government of Florence found itself face to face with a serious difficulty—a lack of funds. It was one, however, with which the ruling faction was eminently fitted to grapple. Carducci and his friends seized a quantity of

Church and corporate property and brought it to the hammer. Besides this, they issued a proclamation inviting individuals to give up their plate, in order that it might be coined into money; and the thing was done in a burst of enthusiasm—to such an extent that, with the aid of some Church plate, full 53,000 new ducats were struck before the month was out. This sacrifice was followed by a grand religious ceremony, in which all Florence took the sacrament, and after which every soldier and citizen in the city made oath to resist to the last extremity. No serious effort, however, was made against the foe, and the blockade would have dragged its slow length along, with intolerable tedium, to the inevitable surrender, had it not been for the stirring nature of certain secondary operations.

Florence still garrisoned a few of her former possessions, among them—Pisa, Luca, Volterra, and Empoli. These towns had always been quite as factious as the capital. Indeed, it was chiefly by siding with one party against the other that Florence had introduced her authority and confirmed it over both. The war had revived these factions, and in Volterra, some sixty miles to the southwest, the citizens adverse to Florentine supremacy had possessed themselves of the town and driven the garrison into the citadel. The governor communicated with his superiors, demanded succor, and received it. A force of 1,000 men was equipped with admirable celerity, and instructed to cut its way to Empoli. There it was to place itself under the principal Florentine leader without, Ferrucci, who was to strengthen it with a portion of his garrison and do the rest. The plan was about as mischievous as could be conceived. The possession of Volterra could exercise no possible influence over the events of the war. But so long as Empoli was held by such a man as Ferrucci, Florence might laugh at all attempts to starve her into surrender. Nevertheless, the invaluable was risked to secure the worthless, in a way peculiar to mad democracy, for this expedition—so thoroughly foolish—was exceedingly flattering to the popular vanity. In Florentine estimation, it was rivalling ancient Rome,

which had sent an army into Africa when Hannibal was at her gates.

The expedition was much better conducted than planned. Giugna, the leader, was a right good soldier. Starting at midnight on the 24th of April, he pierced the enemy's lines, and reached the river Cesa before his progress could be arrested by the masses which Orange directed against him. There, however, he found himself in a decided scrape. The Imperial cavalry had headed him off, and dense masses of infantry were closing round his flanks and rear. But, just in the nick of time, Ferrucci came up with his garrison and carried him off.

Ferrucci left Giugna with 800 men at Empoli, and marched himself with double the number on Volterra. He set out early on the 27th, and—though his men were heavily armed and still more heavily laden with provisions, ammunition, and scaling-ladders—he completed the march of 40 miles before sunset. Giving his troops one hour's rest, he led them to the assault. The streets were strongly barricaded; but he carried the first and most important defence that night, and then went to rest. Next morning, awed by his stern and daring character, the foe surrendered—just as 3,000 Imperial cavalry galloped up in relief. "Gallantly done!" said Orange. "That Ferrucci is a man worth contending with; but I'll soon give him a Roland for his Oliver." And dispatching a reinforcement to Marmaldo, the leader of the cavalry, with orders to besiege Volterra, he hurried the Marquis del Vasto with an imposing force against Empoli.

The Florentines were soon aware of these detachments, and organized a powerful sally against the denuded lines. It took place on the 5th of May, and was led by Colonna, who did his duty brilliantly. He carried the key of the enemy's position with no less skill and valor, slaying the commander, a tried soldier, and driving out the remnant of his men, all Spanish veterans, in frightful confusion. But instead of seconding Colonna with powerful masses, Malatesta fed the fight by dribs and drabs, until the skilful dispositions of Orange restored the balance. The battle then degenerated into a series of skirmishes,

which closed with the day. The Prince spent the next few weeks in quietly strengthening his entrenchments, and in watching the progress of events elsewhere, while the Florentines wasted theirs in idle processions, diversified by a few trifling skirmishes and a good many executions.

Meanwhile, the sieges of Volterra and Empoli were closely pushed. Ferrucci, in the former city, was greatly pressed for money, which he raised with some violence. He punished the revolt with an enormous fine, he forced contributions from the wealthy by torture, he seized the Church plate, and he sold the relics of the saints by auction. But all this he did for the service of the State. His worst enemies—and he had many bitter ones—allowed that he was as incorruptible as he was able.

Marmaldo sent a trumpeter to summon the town. Ferrucci dismissed this man with contempt, but threatened to hang him should he return. Marmaldo replied by a sharp assault, effected a lodgment in one of the suburbs, and then repeated his summons. Ferrucci kept his word, and hung the trumpeter in sight of both armies. Marmaldo as publicly vowed revenge for this and another cruel act that had just come to his knowledge. Ferrucci, who, it seems, had been badly treated by some Spanish soldiers in a former war, and who, therefore, had pledged himself to mortal hate against the whole nation, finding fourteen Spaniards in Volterra, had shut them up in a tower and starved them to death. Such cruelty, however, was not peculiar to Ferrucci. Little quarter was given by any side during this horrid war, and many deeds were done which drew down hideous reprisals. Marmaldo, however, had to postpone the fulfilment of his vow for the present. His force was not equal to the capture of Volterra when defended by such a captain, so he abandoned the lodgment, and remained at observation until Empoli fell.

Giugna, the new commander of Empoli, like many another gallant partisan, was out of place in a beleaguered fortress. After a few days' defence he consented to a parley. This was the time of all others when it behoved a good captain to be vigilant. Giugna

was not so, and during the parley the Imperialists broke in. A terrible scene ensued, in which Bandini, the victor in the recent duel, honorably distinguished himself by his efforts to restrain the soldiery. Empoli fell on the 29th of May, and the disaster, which was soon known, greatly exasperated the Florentines. The unfortunate captains were all proscribed; Giugna's son, a child of eight, was beheaded! And as the niece of Clement, Catherine de' Medici, afterwards Queen of France, was then residing in a convent in the city, it was proposed in the council, by some to abandon her to the common soldiers, and by others to suspend her by a rope from the walls, and thus expose her to the fire of the enemy. There are not wanting annalists who assert that these atrocities were actually practised.

Another great sally followed on the 10th of June. It was, as usual, ably conducted by Colonna, and, as usual, deliberately spoiled by Malatesta. This failure produced more proscriptions and executions, mixed up with imposing religious processions, forced loans, and sales of corporate property. Immediately after the sally, Clement, for the last time, proposed to treat on easy terms, but the infatuated Florentines refused to receive his ambassador. Privations, however, began to be severely felt; for though the Florentines could raise money to any extent, now that Empoli had fallen it was no longer possible to introduce supplies. Yet still a large proportion of the citizens remained as presumptuous, as enthusiastic, and as tyrannic as ever. That extreme section, however, was soon shown to be far less numerous than it announced itself, or even than its victims suspected; for the reign of terror was shortly afterwards pushed to such a pitch, that the anti-revolutionists, in sheer despair, ventured to show themselves in open opposition, and were astonished to find themselves a positive majority. From that moment the executions ceased, and the revolution was doomed.

A deputation from all classes waited on the government, pointed out the hopelessness of foreign aid, and the impossibility of continuing their passive resistance much longer, and demanded a prompt and decisive effort for peace.

The deputation was openly supported by Malatesta and his troops, so the government was compelled to choose, and decided to make the effort. The plan was soon formed. Ferrucci was to take as many men as could be spared from Volterra, to move straight down to the coast, thence northward through Leghorn to Pisa, gathering reinforcements as he went. From Pisa he was to advance to Pestoija; and thence he was to make a dash at Florence, whose garrison was to second him by a stupendous sally. Two men of rank volunteered to bear these orders. They traversed the hostile camp in disguise on the night of the 13th of July, and by sunset of the 14th were safe at Volterra. Their success was soon known at Florence. Nobody, friend or foe, doubted that Ferrucci would do all that man could do. And the next three weeks was a period of such unutterable suspense as beleaguered city has seldom known.

Ferrucci did not waste a moment in carrying out his instructions. He would have preferred another course—a dash at Rome, after the manner of Bourbon, which, if not successful—and he had laid his plans to command success—would yet compel the Prince to break up the siege and follow in pursuit. Nor was he the man to be deterred by any scruple. He was one of the many high-class Italians whom classic studies, Christian corruptions, and the ferocious warfare of the period had reduced to downright paganism. Ferrucci, however, with all his paganism, was a man of men. At the word of command he gave up his own plans without a murmur, rose from a sick bed to make his arrangements, and marched ere sunrise next morning with 1,500 men on the desperate enterprise. Marmaldo followed hard on his track; but Ferrucci gained Pisa with greatly augmented forces by the 18th. At Pisa his unparalleled exertions threw him into a fever which disabled him for a fortnight; and during that time Orange completed the precautions which he knew so well how to make.

Ferrucci resumed his march with 4,000 men on the 31st of July. It was nearly hopeless; but he was the slave of duty, and pushed on. On the night of the 3d of August he encamped among the mountains of Pestoija. The spot is

still known as the Field of Iron. A few miles off, on one flank, was a force equal to his own—with Marmaldo. More distant, on the other flank, was Vitelli, with a similar band; and the Prince of Orange himself was advancing on foot at the head of 10,000 men. Ferrucci knew his danger well. He had never expected to make his way to Florence without stern opposition; but he had calculated on the necessities of the siege preventing the Prince from meeting him with any great disparity of force, and he saw at once that Malatesta, at least, was a traitor, and success beyond his reach. Even yet he might have escaped by abandoning his baggage and taking to the hills; but his orders pointed straight on, and the antique spirit of the man was not to be driven from the path of duty, though it led to destruction. Starting with the dawn on his last march, he pushed for the neighboring town of Gavinina, determined to fortify himself there. But as he entered the gate on the one side, Marmaldo broke over the feeble wall on the other. The adverse hosts met, breast to breast, in the market-place, and for three terrible hours the battle swayed up and down the narrow streets. Marmaldo, though a splendid soldier, was no match for Ferrucci. The latter fought in the foremost rank—it was his custom in such emergencies—and he was well supported, for his captains and soldiers idolized him. Few, indeed, equalled his prowess, for Ferrucci was a giant in size; but all fought as became the followers of such a chief, and quarter was neither asked nor given.

Vitelli and the Prince, apprised of the conflict, hurried to the scene. Philibert was seated in front of a tavern four miles off, at Lagone, when the news came. He called for wine, drank success, and rode off with his men-at-arms, followed, at a slower pace, by the infantry. At the bottom of the rocky ascent that leads to Gavinina, he met a party of Marmaldo's horsemen in hasty flight. The Prince collected his immediate followers, rode through the fugitives, and charged up the hill, where Marmaldo was evidently hard pushed. Towards the top, the road narrowed between lofty banks, and the pass was swept by a company of Ferrucci's arquebusiers. The

Prince plunged fearlessly into the line of fire, and instantly fell, pierced by a three-ounce ball. His body-guard fled, spreading the report that their commander was slain and Ferrucci victorious. This report reached Florence, and great was the excitement there. But no token of disaster was observed in the Imperial camp; and as night fell, the citizens noticed their own mercenaries packing up their goods and making other preparations ominous of retreat. Then the fatal truth was suspected, and a few hours after their worst fears were confirmed.

The Prince, indeed, was slain, but the panic of his body-guard had extended no further. The rest of his troops came speedily into action, so did those of Vitelli, while Marmaldo's men, sadly shaken and terribly diminished, redoubled their exertions. All closed round the doomed Ferrucci and his band. They were reduced to the merest handful. Still the stubborn chief, though covered with wounds, continued the action; nor was it until the weapon dropped from his weary hand as he stood alone among his foes that he consented to surrender. His captor, one of the detested Spanish bands, endeavored to shield him; but Marmaldo's vengeance was not to be baffled. The dying hero was led out, and, under the old chestnut-tree in the market-place, Marmaldo passed his

sword through his breast. "Personally, I admired him," said Marmaldo, afterwards; "but I could not forget my trumpeter, and," he added, in the tone of a true Pagan, "the manes of the Prince demanded the sacrifice."

Even after this event there were men in Florence mad enough to think of prolonging the strife. These were the upstarts, who would lose everything by surrender, and the fanatics, who persisted in believing, to the last, that heaven would send an army of angels to deliver the city. But far more numerous were those who clamored for surrender. The Imperialists, aware of these differences, chafed to storm the place. Malatesta, however, while encouraging division within, kept a shrewd eye on the army without, and held his mercenaries well in hand to repel any attempt at escalade. None was attempted. A few days enabled the peace party to overawe their opponents, and then the town surrendered to the Pope. The terms, considering the period, were not severe. Severity, indeed, was hardly requisite. All things weighed—the waste of wealth, her ruined trade, the ravages of famine and pestilence (for the latter had swept twice through the city since 1527) and the loss of such men as Ferrucci—Florence had suffered enough. — *Cornhill Magazine.*

LIFE'S COST.

I COULD not at the first be born
But by another's bitter wailing pain;
Another's loss must be my sweetest gain;
And Love, only to win that I might be,
 Must wet her couch forlorn
With tears of blood and sweat of agony.

Since then I cannot live a week
But some fair thing must leave the daisied dells,
The joy of pastures, bubbling springs and wells,
And grassy murmurs of its peaceful days,
 To bleed in pain, and reek,
And die, for me to tread life's pleasant ways.

I cannot sure be warmed or lit
But men must crouch and toil in tortuous caves,
Bowed on themselves, while day and night in waves

Of blackness wash away their sunless lives;
Or blasted and sore hit,
Dark life to darker death the miner drives.

Naked, I cannot clothed be
But worms must patient weave their satin shroud;
The sheep must shiver to the April cloud,
Yielding his one white coat to keep me warm;
In shop and factory,
For me must weary toiling millions swarm.

With gems I deck not brow or hand
But through the roaring dark of cruel seas
Some wretch with shivering breath and trembling knees
Goes headlong, while the sea-sharks dodge his quest;
Then at my door he stands,

Naked, with bleeding ears and heaving chest.

I fall not on my knees and pray
But God must come from heaven to fetch that sigh,
And pierced Hands must take it back on high;
And through His broken heart and cloven side
Love makes an open way
For me, who could not live but that He died.

O awful sweetest Life of Mine,
That God and man both serve in blood and tears!
O prayers I breathe not but through other prayers!
O breath of life compact of others' sighs!

With this dread gift divine
Ah, whither go?—what worthily devise?

If on myself I dare to spend
This dreadful thing, in pleasure lapped and reared,
What am I but a hideous idol smeared
With human blood, that with its carrion smile

Alike to foe and friend
Maddens the wretch who perishes the while?

I will away and find my God,
And what I dare not keep ask Him to take,
And taking love's sweet sacrifice to make;
Then, like a wave the sorrow and the pain
High heaven with glory flood—
For them, for me, for all, a splendid gain.

Macmillan's Magazine.

THE DEAN'S WATCH.

BY MM. ERCKMANN-CHATRIAN.

I.

THE day before Christmas of 1832 my friend Wilfrid, his double-bass slung over his shoulder, and I with my violin under my arm, were on our way from

the Black Forest to Heidelberg. There had been an extraordinary fall of snow, and as far as we could see across the immense desert plain no trace of road or pathway was discernible. The north wind whistled its shrill *ariette* with mo-

notorious persistence, and Wilfrid, his wallet flattened against his meagre spine, his long heron-legs stretched wide apart, and the peak of his flat cap drawn down to his nose, went on before me, humming some joyous passage from 'Ondine.' Now and then he turned round and cried with a strange smile :

"Comrade, play me the valse from 'Robin.' I feel inclined to dance."

A burst of laughter followed these words, and the good fellow pushed on more vigorously than ever. I kept pace with him, sinking in the snow up to my knee at every step, and feeling my spirits sinking by slow degrees.

The heights of Heidelberg were coming into sight on the far side of the horizon, and we were hoping to reach our journey's end before nightfall, when we heard the gallop of a horse behind us. It was then about five o'clock in the evening, and great flakes of snow were swirling in the dusky air. The rider presently came up within twenty paces of us, drew rein, and scrutinised us out of the corner of his eye; and we did the same to him.

Imagine a large man with red beard and hair, wearing a superb three-cornered hat; over his brown coat a wide-skirted fox-skin 'pelisse, and his hands in fur-lined gloves reaching to his elbows—some big-paunched sheriff or burgomaster—a handsome valise fastened on the croup of his vigorous steed. In short, unmistakably a personage.

"Eh, eh, my lads," he said, withdrawing one of his great hands from mufflers hung to his rhingrave, "no doubt we are going to Heidelberg to play our music?"

Wilfrid looked keenly askance at the traveller and answered sharply :

"Does that in any way interest you, monsieur?"

"Rather; and I have a piece of good advice to give you on the subject."

"Advice?"

"If you don't refuse it."

Wilfrid, taking longer strides than before, walked on without answering; and I noticed that the traveller had exactly the look of a large cat—ears standing out from his head, half-closed eyelids, frizzled moustaches, and soft and fatherly manner.

"My dear friend," he continued, ad-

dressing me frankly, "you will do well to return the way you have come."

"Why, monsieur?"

"The illustrious Maestro Pimenti, of Novara, has announced a Christmas concert at Heidelberg; all the town is going to it, and you will not earn a kreutzer."

But, turning ill-temperedly, Wilfrid replied :

"We scorn your maestro and all the Pimentis in the world! Look at this young man—look well at him! He hasn't yet a scrub of beard on his chin, and he has never played anywhere but in the little wine-shops of the Black Forest, for the charcoal-burners and their girls to dance to. Well, this little man, with his long flaxen locks and his big blue eyes, defies all your Italian charlatans. His left hand holds treasures of melody, grace, and suppleness; his right, the most magnificent bow-stroke that the Lord sometimes, in his moments of good humor, deigns to accord to poor mortals."

"Aha!" said the other, "is it so, indeed?"

"What I tell you is the truth," cried Wilfrid, trudging along and blowing his red fingers.

I thought he was making game of the traveller, who followed us at a slow trot.

He went on in this manner for more than half a league in silence. Suddenly the unknown said to us sharply :

"Whatever your merit may be, take yourselves back to the Black Forest. We've vagabonds enough at Heidelberg, without having you to swell the number. I advise you for your good—especially under the present circumstances. Profit by my counsel!"

Wilfrid was about to return him an indignant answer, but he had put his horse into a gallop and was already riding along the Elector's grand avenue. An immense flight of crows rose from the plain, and seemed to follow the stranger's course, filling the air with their clamors.

We reached Heidelberg towards seven o'clock in the evening, and certainly saw Pimenti's grand posting bill on all the walls of the city : "Grand concerto, solo," &c.

The same evening, going the round of

the beer-houses of the theologians and the philosophers, we met several Black Forest musicians, old comrades, who engaged us to join their band. There was old Bremer, the violoncellist; his two sons, Ludwig and Karl, two good second violins; Heinrich Siebel, the clarinet; big Berthe with her harp; then Wilfrid and his double bass, and myself as first violin.

It was agreed that we should go about together, and that after Christmas we should share our gains. Wilfrid had already hired, for us two, a sleeping-room on the sixth story of the little public-house called the *Pied de Mouton*, in the middle of the Holdergasse, at five *kreuzers* the night. Properly speaking the room was a loft; but fortunately it contained a stove, made of sheet-iron, and we lit a fire in it to dry ourselves.

While we were quietly seated, roasting chestnuts and drinking a mug of wine, little Annette, the servant of the house, in a poppy-colored petticoat and black velvet cap, blushing cheeks, and lips like a bunch of cherries, mounted the stairs four steps at a time, tapped at the door, and then came and threw herself joyfully into my arms.

I had known this pretty little girl a long while; we belonged to the same village, and, if I must tell you the whole truth, her sparkling eyes and sprightly manner had captivated my heart.

"I've come to have a moment's talk with you," she said to me, seating herself on a box. "I saw you go upstairs just now—and here I am."

She then set off chatting, asking me news of this one and that one, in fact of everybody in the village; giving me hardly time to answer any of her questions. Sometimes she stopped to look at me with inexpressible tenderness; and we should have gone on so till the next day, if Mother Gredel Dick had not called out on the stairs:

"Annette! Annette! are you coming?"

"I'm coming, madame! I'm coming!" cried the poor child, springing up in surprise. She gave me a little tap on the cheek and hurried to the door; but at the moment of going out of the room she stopped:

"Ah!" she cried, returning, "I'd forgotten to tell you. Have you heard of it?"

"Of what?"

"The death of our pro-rector Zahn?"

"How does that concern us?"

"Perhaps not; but take care, take care, if your papers are not all perfectly correct. At eight o'clock to-morrow morning they'll come and demand them of you. They've arrested a great many, a great many people, during the last fortnight. The pro-rector was murdered in the library of the St. Christophe cloister yesterday evening. Last week the old high priest, Ulmet Elias, of the Jew's Street, was murdered in a similar manner. A few days before that the old midwife, Christina Haas, and Seligmann, the dealer in agates, of the Rue Durlach, were assassinated. So my poor Kasper," she said tenderly, "take great care of yourself, and I hope all your papers are in order."

While we were speaking the cries below were being continued.

"Annette! Annette! are you coming down? Oh! the wretch, to leave me all alone!"

The voices of the customers were also heard, demanding wine, beer, ham, and sausages. We were obliged to part. Annette hurried downstairs as she had hurried up, and answered in her sweet voice:

"Good gracious! good gracious, madame! What is the matter, that you call out for me like that? One might imagine the house was on fire, at least."

Wilfrid went and closed the door, and then, when he had resumed his place, we looked at each other somewhat uneasily.

"That's singular news," he said. "Your papers are all right, are they not?"

"Not a doubt of it."

And I showed him my *livret*.

"Good—mine is the same; I had it properly signed before starting. But all the same these murders will do us no good. I'm afraid we shan't do any business here. Many families are in mourning; and then, besides, there will be the hindrances, the humbug, of the seneschal's court, the anxieties"—

"Bah! you are looking at everything on the dark side," I said to him.

We continued to talk of these strange events till past midnight. The fire in our little stove lit the angle of the roof, the

square window with its three cracked panes, the mattress spread under the tiles, the black sloping rafters supporting one another, the little deal table with its shadow flickering on the worm-eaten floor. Now and then a bat, drawn by the warmth, flitted like an arrow along the wall. The wind was heard ingulfing itself in the high chimneys and sweeping the snow-dust from the gutters. I was thinking of Annette, and had relapsed into silence.

Suddenly Wilfrid took off his waist-coat, saying :

"It's time to get to sleep. Put another block of wood on the fire and let's go to bed."

This said, I pulled off my boots; we were stretched on the mattress, the coverlid drawn up to our chins, a big log under our heads for a pillow. Wilfrid was soon asleep. The light of the little stove came and went; the wind redoubled out of doors; and still thinking, I, in turn, fell tranquilly off to sleep.

About two o'clock in the morning I was awakened by an indescribable noise; I thought at first it was a cat rushing along the gutters; but after listening with my ear against the tiles, my uncertainty was soon removed—somebody was walking on the roof.

I nudged Wilfred with my elbow to wake him.

"Hush!" he said, grasping my hand.

He had heard the sound as well as I. The light of the nearly expiring fire fell faintly upon the crumbling wall. I was going to rise, when the little window, held closed by a piece of brick, was suddenly opened. A pale face, with red hair, phosphorescent eyes, and quivering cheeks, appeared, looking searchingly into the interior. So astounded were we that neither of us had power to utter a cry. The man passed one leg, then the other, through the window, and descended into our loft so cautiously as not to make the slightest sound on alighting on the floor.

This man, with wide round shoulders, thickset, his features knit like those of a tiger on the watch, was no other than the easy-going personage who had given us advice on the road to Heidelberg. But how changed his physiognomy now appeared to us! In spite of the excessive cold, he was in his shirt sleeves; he

had nothing on but his breeches, girt about his waist, black silk stockings, and shoes with silver buckles. A long blood-stained knife glittered in his hand.

Wilfrid and I thought ourselves lost. But he seemed not to see us in the oblique shadow of the garret, though the flame in the stove had been fanned up by the icy current of air from the skylight. He crouched down upon a box and shivered with cold in a strange fashion. Suddenly his yellowish-green eyes fixed their gaze on me—his nostrils dilated, and he continued to gaze at me for a full minute. Every drop of blood seemed to leave my veins. Then, turning towards the stove, he coughed in a hoarse tone of voice, like that of a cat, without a muscle of his face starting. He drew from the fob of his breeches a large watch, moved like a man looking to see the hour, and then, either from absence of mind, or from some other motive, placed it on the table. Finally, rising as if in doubt, he considered the window, appeared to hesitate, and went out, leaving the door wide open.

I rose immediately for the purpose of drawing the bolt, but already the steps of the man were creaking on the stairs two stories below. An irresistible curiosity overcame my terror, and, as I heard him open a window overlooking the yard, I went to a window on the stairs on the same side. The yard, from this height, was as deep down as a well; a wall, fifty or sixty feet high, divided it in two. To the right of this wall was the yard of a pork-butcher; to the left, that of the *Pied de Mouton*. It was covered with damp moss and the wild vegetation that plants itself in the shade. The summit reached from the window opened by the assassin in a straight line to the roof of a large dark-looking house, built at the back of the Bergstrasse. As the moon was shining between the large snow-laden clouds, I saw all this at a glance, and shuddered on perceiving the man making his way along the top of the high wall, his head bent forward and his long knife in hand, while the wind whistled drearily.

He reached the opposite roof and disappeared through a window.

I thought I was dreaming. For some few seconds I stood there, open-mouthed and bare-chested, my hair streaming, un-

der the sleet that fell from the roof. At last, waking from my state of stupor, I returned to our retreat, and rejoined Wilfrid, who looked haggardly at me and murmured a prayer in a low voice. I hastened to put wood into the stove, to put on my clothes, and to draw the bolt of the door.

"Well?" asked my comrade, rising.

"Well," I answered, "we've escaped. If this man has not seen us it is because we owe our lives to God."

"Yes, yes," he replied; "it is one of the murderers of whom Annette told us. Good God! what a face, and what a knife!"

He fell back on the mattress. As for myself, I swallowed at a draught all that was left of the wine in the mug, and as the fire had burned up, the warmth had again spread itself through the chamber, and the bolt of the door was securely drawn, my courage began to return.

Still the watch was there—the man might come back for it. This idea froze us with terror.

"What shall we do now?" said Wilfrid. "The shortest course to take will be to set off at once back to the Black Forest."

"Why should we?"

"I've no longer any inclination to play the double-bass—you can do as you like."

"But why—what should we run away for? Have we committed any crime?"

"Don't speak so loud—don't speak so loud!" he cried. "Only that word *crime*, if anybody overheard it, might bring us to the gibbet. Poor devils like us would serve for examples to others. It does not take long to decide who commits crimes; it would be quite enough if that watch were found here."

"Listen to me, Wilfrid," I said to him; "there's no use in losing your wits. I've no doubt, in my own mind, that a crime has been committed to-night in our neighborhood; under such circumstances, what ought an honest man to do? Instead of taking to flight, he must assist justice, he must"—

"How?—how can he assist it?"

"The simplest way will be to take the watch to-morrow to the high bailiff, and state to him what has passed."

"Never! never! I daren't touch this watch!"

"Very well; *I'll* go with it. Let us

lie down and try to go to sleep again, if possible."

"I've no wish to go to sleep."

"Then, let us talk; light your pipe, and we'll wait for daylight. There are people still up below, perhaps; if you like, we'll go down."

"I'd rather remain here."

"So be it."

We resumed our places by the side of the fire.

The next morning as soon as it was light I went and took up the watch from the table. It was a very handsome double-dialled watch, the one dial marking the hours, the other the minutes. Wilfrid appeared more reassured.

"Kasper," he said, "I think, after all, it will be better that *I* should go and see the bailiff. You are too young to manage such matters; you'll not explain yourself properly."

"Just as you like," I replied.

"It would appear strange for a man of my age to send a mere boy."

"Very well; I understand, Wilfrid."

He took the watch, and I noticed that his self-love alone urged him to take this resolution; no doubt he would have blushed before his comrades to have shown less courage than me.

We descended from the loft thoughtfully. Passing along the passage which opens [into the Rue Saint-Christopher we heard the rattle of glasses and forks, and I recognized the voice of old Bremer and his two sons, Ludwig and Karl.

"Faith, Wilfrid," I said, "before going out, we should do no harm to take a drink of something."

At the same time I pushed open the room door. Our whole company was there, the violins and horns hanging on the wall and the harp in a corner. We were welcomed with joyous shouts. All bestirred themselves to make room for us at the table.

"Good day, comrades!" cried old Bremer. "Wind! snow! All the beer-houses will be full of company. Every flake that whirls in the air is a florin falling into our pocket."

I perceived my little Annette, fresh, shrewd, smiling at me with eyes and lips of love. This sight cheered me. The best cuts of ham were for me, and every time she came to place a mug on my

right her soft hand rested expressively on my shoulder.

Oh! how my heart bounded in thinking of the chestnuts we had crunched together of an evening! Yet the pale face of the murderer passed from time to time before my eyes and made me shudder. I looked at Wilfrid; he was very thoughtful. At length, as the clock struck eight, our band was preparing to set out, when the door opened and three police officers, with livid complexions and eyes that glittered like those of rats, followed by several others of the same species, presented themselves on the threshold. One of these, having a long and, as they say, daintily formed nose, and a stout cudgel hanging at his wrist, advanced, crying:

"Your papers, gentlemen."

Everyone hastened to satisfy his demand. Unfortunately, Wilfrid, who was standing by the stove, was seized by a sudden fit of trembling, and, as the experienced eye of the police officer was turned upon him with an equivocal regard, the fatal idea came into his head of slipping the watch into his boot; but before it had reached its destination the officer clapped my comrade on the thigh, and said in a bantering tone:

"Aha! This little business appears to be slightly unpleasant to you?"

Thereupon Wilfrid was seized with a fainting fit, to everybody's great astonishment; he sank back upon a form, pale as death, and Madoc, the chief of the police, without ceremony searched in his trousers, and, with a wicked outburst of laughter, produced the watch. But hardly had he looked at it than he became grave, and turning towards his assistants cried in a terrible voice:

"Let no one leave this place! We've got the whole band! Here's the watch belonging to Dean Daniel Van den Berg. Quick! the handcuffs!"

This order sent an icy thrill into the marrow of our bones. There was terrible excitement. Feeling, myself, that we were lost, I slipped down under the bench next the wall, and while they were putting the irons on poor old Bremer, his sons, Heinrich, and Wilfrid, who sobbed and protested his innocence, I felt a small hand passed round my neck, the tender hand of Annette, on which I pressed my lips as a last farewell. But

she took me by the ear and drew me softly, very softly, from under the bench. I saw the open trap-door of the cellar under one end of the table, I slipped into it, and the door closed.

It was all done in a second, in the midst of the confusion.

I was hardly in my hiding-place before I heard footsteps trampling on the trap door, then all became silent; my poor comrades were gone! Mother Gredel Dick, from her doorstep, shrieked like a peacock that the *Pied de Mouton* had been dishonored.

I will leave you to imagine what my reflections were during the whole of that day, cowering behind a barrel, my back twisted, my legs bent under me, thinking that if a dog should by any chance come down into the cellar, that if the landlady herself should come to fill a jug, that if the barrel behind which I was concealed were to become empty during the day and another had to be tapped—that the least accident, in short, might destroy me.

All these ideas and a thousand others passed through my head. I pictured to myself old Bremer, Wilfrid, Karl, Ludwig, and big Berthe, already hanging upon the gibbet of Harberg, in the midst of a whole flight of crows gorging themselves at their expense. The hair rose on my head.

Annette, not less troubled in mind than myself, out of extreme cautiousness, shut the door every time she came up from the cellar. I heard the old woman call out to her:

"Leave that door alone! What are you thinking of—to waste half your time opening and shutting it?"

The door was then left ajar, and out of the darkness I saw the tables surrounded by new drinkers, and heard exclamations, discussions, and endless stories concerning the famous band.

"The scoundrels!" cried one. "Thanks to heaven they are all captured! What a scourge for Heidelberg! One did not dare to stir out into the streets after ten o'clock. Trade was beginning to suffer. But there's now an end of it, and in a fortnight's time all will be right again."

"These musicians from the Black Forests," cried another, "are nothing but a set of bandits! They get let into houses

under pretence of playing music; they take notice of the locks, the coffers, the cupboards, the entrances, and then one fine morning we hear that Master So-and-so has had his throat cut in his bed—that his wife has been murdered, his children strangled, his house stripped from top to bottom, his barn set on fire, or something of the kind. The wretches! They must be exterminated without mercy, if the country is to know any quiet and safety."

"The whole town will go to see them hung," said Mother Gredel, "and it'll be the happiest day of my life. Do you know that but for Dean Daniel's watch no trace of them would ever have been discovered? Yesterday evening the watch disappeared, this morning Master Daniel gave a description of it to the police, an hour afterwards Madoc claps his hand on the whole covey! Ha! ha! ha!"

The whole room rang with laughter. Shame, indignation, fear, made me shudder by turns.

Night came, however. Only a few drinkers remained seated at the tables. I heard the fat landlady, who had been up late the night before, yawn and murmur:

"Ah! when are we going to get to bed?"

One candle alone was left alight in the room.

"Go to bed, madame," said Annette, gently. "I'll sit up alone until these gentlemen go away."

Some of the tipsy guests understood this invitation and went away; but one remained, dozing in front of his jug. The watchman going his rounds waked him up, and I heard him go out in his turn, grumbling and staggering, at the door.

"At last he's gone," I said to myself. "Mother Gredel will go to bed and little Annette will not be long before she comes to set me at liberty."

With these pleasant thoughts in my head I was stretching my cramped limbs, when these words of the fat landlady fell upon my ears:

"Annette, go and shut up the house—and don't forget to put up the iron bar—while I go down into the cellar."

This laudable practice appeared to be habitual with her, to assure herself that all was in order.

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"But, madame," stammered the girl, "the barrel is not empty; there is no need for you!"

"Mind your own business," interrupted Mother Gredel, whose candle already shone upon the stairs.

I had but just time enough to jam myself once more behind the barrel. The old woman, stooping under the low roof of the cellar, went from one cask to another, and I heard her mutter:

"O the hussy! how she lets the wine run! Wait a bit, wait a bit. I'll teach you to fasten the taps better! Was ever such a thing seen?—was ever such a thing seen?"

The light cast shadows against the damp wall; I cringed into the smallest possible place.

Suddenly, at the moment when I thought the visit was terminated, I heard the old woman utter a sigh—a sigh so long and so doleful, the idea immediately entered my head that something extraordinary must be going on. I ventured to look out of my place of retreat with the utmost caution. What did I see? Mother Gredel Dick, with open mouth and eyes starting from her head, gazing under the barrel behind which I was holding myself motionless. She had perceived one of my feet under the log which served to tilt it, and doubtless imagined that she had discovered the chief of the robbers hidden there for the purpose of murdering her during the night. My resolution was promptly taken; I rose to my feet murmuring:

"Madame, in the name of heaven, take pity on me! I am!"

But without looking at me, and without heeding a word of what I said, she set up a screeching enough to split one's ears, all the time scrambling up the stairs as fast as her corpulence would allow her to move. I, on my part, seized with indescribable terror, hung on to her gown to beseech her on my knees; but that made things worse than ever.

"Help; murder!" she cried. "Oh! oh! Leave me! Take my money! Oh! oh!"

It was frightful. In vain I cried to her:

"Madame, look at me! I am not what you imagine me to be!"

Bah! she was out of her senses with

terror. She raved, she stuttered, she yelled in accents so shrill that, if we had not been underground, all the neighborhood would have been aroused. In this extremity, carried away by my fury, I climbed over her back, reaching the door before her, and clapped it to like thunder, taking care to shoot the bolt in its socket. The light having gone out during the struggle, Mother Gredel was left in darkness, and her voice was only feebly heard, as in the distance.

Exhausted and downcast, I looked at Annette, whose distress equalled my own. We had neither of us strength to utter a word, and we listened to the old woman's cries, that grew weaker and weaker, and at last ceased altogether; she had fainted.

"Oh, Kasper!" cried Annette, joining her hands. "What is to be done? My God! what is to be done? Fly! fly! Somebody may have heard. You have killed her."

"Killed!—I?"—

"Well, well, fly—make your escape! I'll open the door for you."

As she spoke she unbarred the door and I rushed into the street without even thanking her, the ungrateful wretch that I was! But I was so terrified, the danger was so pressing, the sky so dark. The weather was abominable; not a star was in the heavens, not a lamp alight; it blew and snowed. For half an hour I hurried on without once pausing to take breath. My horror may be imagined when, raising my eyes, I saw that I was in front of the *Pied de Mouton*. In my terror I had made the circuit of the neighborhood, perhaps, three or four times. My legs were weary and mud-covered, my knees bent under me.

The public-house, so recently deserted, hummed like a beehive; lights were passing from one window to another. No doubt it was full of police officers. Down-hearted, exhausted by cold and hunger, desperate, and not knowing where to find shelter, I then took the most singular of all resolutions.

"Faith!" I said to myself, "If I am to die, I can but die. As well be hung as leave my bones on the road back to the Black Forest."

I went into the public-house, therefore, to give myself up to justice. Among the shabby-looking individuals

with battered hats and enormous bludeons whom I had seen in the morning, and who were now prying and ferreting all over the house, there was, seated before a table, the high bailiff, Zimmer, dressed in black, with grave air and penetrating eye; and Secretary Roth, in his red wig, with his imposing expression of face and his broad, flat ears, like oyster-shells. Hardly any notice was taken of me, a circumstance which at once modified my resolution. I took a seat in one of the corners of the room behind the cast-iron stove, in company with two or three of the neighbors, who had come to see what was going on, and I calmly asked for a measure of wine and a plate of *sauer-kraut*.

Annette nearly betrayed me.

"My God!" she exclaimed. "Is it possible?"

But an exclamation more or less in the midst of such a clamorous crowd signified absolutely nothing. Nobody took any notice of it; and while I went on eating with the best appetite I listened to the examination to which Mother Gredel was being subjected while lying helplessly in a large arm-chair, her thin hair and eyes still disordered by terror.

"What appeared to be the age of this man?" asked the bailiff.

"From forty to fifty years old, monsieur. An enormous man, with black side-locks, or brown ones—I will not speak positively as to the color—long nose, green eyes."

"Had he no particular marks—stains on the face—scars?"

"No—I don't remember. He had only a large hammer and pistols."

"Very well; and what did he say to you?"

"He seized me by the throat, but fortunately I cried out so loudly that he became afraid, and then I defended myself with my nails. Ah monsieur! when one's life is in danger one defends oneself, monsieur."

"Nothing is more natural and legitimate, madame. Write down, Monsieur Roth, that the *sangfroid* of this good woman has been truly admirable."

And so on throughout the examination.

Annette was then questioned, who simply declared that she had been so terrified as to remember nothing.

"That will do," said the bailiff. "If any further intelligence reaches us we will return to-morrow."

Everybody went away, and I asked Mother Gredel for a bedroom for the night. She had not the least recollection of having seen me before, so completely had her brain been muddled by fear.

"Annette," she said, "show the gentleman up to the little green chamber on the third floor. I can no longer stand on my feet. Ah, good heavens! what one has to go through in this world!"

And she gave free and full vent to her tears, which did her good.

Annette, having lit a candle, conducted me to the chamber named, and when we were alone, "Ah Kasper! Kasper!" she cried out of the simplicity of her heart, "who would ever have thought that you belonged to the band? I shall never be happy again after having loved a brigand."

"You, too, Annette!—you too!" I cried in despair, throwing myself on to a seat. "This is more than I can bear!"

I was ready to burst into tears. But she instantly repented of her injustice, and came and threw her arms about me, crying:

"No! no! you are not one of the band! You are too gentle for that, my good Kasper; but, for all that, you are very venturesome to have come back!"

I told her that I had been dying of cold out of doors, and that that alone had decided me. We remained for a few moments thoughtful, and then she left me, for fear of arousing the suspicions of Mother Gredel. When I was alone, after having made sure that the windows did not open on to any wall, and that the bolt of the door acted properly, I thanked the Lord for having saved me under such perilous circumstances. Then, lying down in bed, I slept profoundly.

II.

NEXT morning I awoke about eight o'clock. The weather was damp and dull. On drawing aside the curtain of my bed, I remarked that the snow was piled on the window-ledges; the windows were all white with it. I thought sadly of the fate of my comrades; how

they must be suffering from the cold, most of all, old Bremer and big Berthe. This idea wrung my heart.

While I was musing in this manner, a strange tumult arose out of doors. It approached the public-house, and it was not without alarm that I sprang towards a window to judge of this new peril.

The famous band was being brought to be confronted with Mistress Gredel Dick, who was unable to leave her house after the emotions of the previous night. My poor companions were coming down the muddy street, between two files of police agents, and followed by an avalanche of boys, hooting and hissing like very savages. I still seem to see the frightful scene: old Bremer manacled to his son Ludwig, then Karl and Wilfrid, and lastly, big Berthe, who walked alone, and crying in a piteous voice:

"In the name of Heaven, gentlemen—in the name of Heaven—have pity on a poor innocent harpist! I kill? I steal? Oh, is it possible!"

She wrung her hands. The others were downcast, their heads bent, and their hair hanging over their faces.

The whole of these people pressed into the dingy passage of the *Pied de Mouton*. The officers turned out all strangers, then shut the door, and the eager crowd were left outside, with feet in the snow and noses flattened against the window-panes.

The profoundest silence then reigned in the house. Being by this time dressed, I partly opened the door of my room to listen, and to see whether it was possible for me to escape from the house unseen.

I heard voices and persons moving about on the lower floors, convincing me that all the issues were well guarded. The door of my room opened on to the landing-place just in front of the window which the man had opened to escape from. At first I took no heed of this. But while I was standing there, I suddenly noticed that the window being open, no snow had lodged on the lower part of the frame, and on going up to it, I perceived fresh footsteps on the wall. This discovery made me shudder. The man had returned! He returned every night perhaps! The cat, the stoat, the ferret—all seekers of living prey—have their habitual path! What a discovery!

A mysterious light was making all clear to my mind.

"Oh!" I cried to myself, "if chance should have placed the murderer in my hands, my poor comrades will have been saved!"

With my eyes I followed the footmarks, which were continued with surprising clearness on to the nearest roof.

At that moment some words of the examination reached my ears. The door of the room in which the inquiry was taking place had been opened to admit air. I heard :

"Do you admit having, on the 20th of this month, participated in the murder of the high priest, Ulmet Elias?"

A few unintelligible words followed.

"Close the door, Madoc," said the bailiff, "close the door; madame is unwell."

I heard no more.

While my head was resting on the bannisters a great resolution was struggling within me. "I may be able to save my comrades," I said to myself. "God will point out to me the means of giving them back to their families. If fear made me shrink from such a duty I should become their murderer. My peace of mind, my honor, would be lost for ever; I should think myself the most cowardly—the vilest of wretches!" For a considerable length of time I hesitated; but suddenly my resolution was taken. I went downstairs and penetrated into the kitchen.

"Have you never seen this watch?" said the bailiff to Mother Gredel. "Try your best to remember, madame?"

But without waiting for the answer, I advanced into the room, and with a firm voice replied :

"I have seen this watch, Mr. Bailiff, in the hands of the murderer himself. I recognise it. And as to the assassin, I can give him up to you this evening, if you will deign to listen to me."

A deep silence was maintained around me; all present looked at one another in bewilderment. My poor comrades appeared to take courage.

"Who are you, monsieur?" demanded the bailiff, recovering from his surprise.

"I am the companion of these unfortunates, and I am not ashamed to own it, Mr. Bailiff, because all of them, though poor, are honest people. Not one

amongst them is capable of committing the crimes imputed to them."

There was a fresh silence. Big Berthe sobbed quietly; the bailiff appeared to gird himself up.

"Where," he said, fixing his eye on me, "where do you propose to give the assassin up to us?"

"In this very place, Mr. Bailiff—in this house. To convince you, I ask but a moment's audience in private."

"Let us hear," he said, rising, and making a sign to Madoc, the chief of the secret police, to follow us, and to the others to remain where they were.

We left the room. I rapidly mounted the stairs, the others following in my steps. On reaching the third story, I showed them the footmarks in the snow.

"Those are the traces of the murderer," I said to them. "He passes this way every evening. Yesterday he came at two in the morning; he has been again during the night. He will, without doubt, come again this evening."

The bailiff and Madoc observed the footsteps for a few moments without speaking.

"And you say that those are the footprints of the murderer?" asked the chief of police, with an air of doubt.

I then related to them the appearance of the assassin in our loft. I pointed out the window of the house into which, by the light of the moon, I had seen him escape—which Wilfrid had not seen, from having remained in bed. I confessed that accident alone had led me to observe the footprints of the preceding night.

"It is strange," muttered the bailiff, "and a great deal modifies the situation of the accused. But how do you account for the presence of the murderer in the cellar of the public-house?"

I simply informed him of all that had taken place the evening before, from the arrest of my comrades to the moment of my flight.

"That will do," he said.

And then, turning to the chief of the police, he observed :

"I must confess to you, Madoc, that the depositions against these fiddlers have never appeared to me conclusive; they were far from confirming me in the idea of their participation in these crimes. Besides, their papers establish,

for several of them, an alibi very difficult to be disproved. Nevertheless, young man, in spite of the apparent truthfulness of the information you have given us, you must remain in our custody until the verification of the fact. Madoc, you must keep him under your eye, and take your measures accordingly."

The bailiff went downstairs meditatively, and folding his papers, without adding a word to the examination :

" Let the accused be taken back to prison," he said, casting a look of contempt to the fat landlady.

He left the house, accompanied by his secretary.

Madoc remained alone with two assistants.

" Madame," he said to the landlady, " you will preserve the strictest silence as to what has taken place. More than that, you will let this honest young man have the room he occupied the night before last."

The look and tone of Madoc admitted of no reply. Mother Gredel promised to do anything and everything required of her, so long as she was secured from the brigands.

" Don't distress yourself about *them*," replied Madoc ; " we shall remain here all day and night to protect you. Attend quietly to your business, and begin by letting us have some breakfast. Young man, will you do me the honor of breakfasting with us ?"

My situation did not allow me to decline this offer. I accepted.

We sat down therefore to a ham and a jug of Rhine wine. Other persons came in and took their customary drinks, provoking the confidence of Mother Gredel and Annette ; but they took great care not to speak in our presence, and were extremely reserved ; which was highly meritorious on their parts.

We spent the whole afternoon smoking pipes and drinking odd glasses and mugs of wine ; no one paid any attention to us.

The chief of police, in spite of his pallid face, his piercing eyes, pale lips, and eagle-beak nose, was a very good fellow after drinking. He told funny stories with spirit and facility. He tried to lay hold of little Annette as she passed him. The others laughed boisterously at everything he said. I alone remained sad and silent.

" Come, young man," he said to me laughingly, " forget your respectable grandmother's death. What the devil ! —we're all mortal ! Drink, and drive away these gloomy fancies."

Others mixed in our conversation, and the time thus passed in the midst of tobacco-smoke, the jingling of glasses, and the clatter of cans.

But at nine o'clock, after the visit of the watchman, everything changed its complexion. Madoc rose and said :

" Now, then, let's get to business. Fasten the door and shutters gently. You, madame, and you, mademoiselle, go to bed."

These three abominably tattered and seedy men had themselves much more the appearance of brigands than of guardians of law and order. They drew from their trowsers iron rods, armed at the end with a ball of lead. Brigadier Madoc tapped on the pocket of his overcoat to assure himself of the presence of a pistol. A moment afterwards he drew it out to put a cap on it.

All this was done quite coolly. Finally the chief directed me to lead them up to my loft.

We mounted the stairs.

On reaching the den, where little Annette had been so careful as to light a fire, Madoc, swearing between his teeth, immediately threw water over the charcoal ; then, pointing to the mattress, he said to me :

" If you are inclined, you can go to sleep."

He then seated himself with his acolytes at the end of the room, near the wall, and blew out the candle.

I lay down, inwardly praying to the Lord to send the assassin.

The silence, after midnight, became so profound that one might almost have doubted that three men were there, open-eyed, and attentive to the least sound, as hunters lying in wait for some wild beast. The hours passed slowly, slowly. I did not sleep. A thousand terrible ideas came into my head. I heard the clock strike one—two ; still nothing appeared.

At three o'clock one of the police officers stirred—I thought the man had arrived—but all again became still. I be-

gan to think that Madoc would take me for an impostor, that he would be terribly angry, that he would maltreat me next day, and that, far from having saved my companions, I should be chained with them.

After three o'clock the time appeared to fly with extreme rapidity; I could have wished that the night would last for ever, so as at least to leave me a ray of hope.

As I was thus, for the thousandth time, sifting these ideas, suddenly, without my having heard the least noise, the window was pushed open—two eyes glittered in the opening—nothing stirred in the loft.

"The others are asleep," I said to myself.

The head still remained there—attentive. One might have said the scoundrel suspected something. Oh! how my heart galloped! how the blood coursed through my veins, while the cold perspiration covered my face! I no longer breathed.

Several minutes passed in this manner; then, suddenly, the man appeared to decide, and dropped into the loft with the same precaution as on the previous night.

At the same moment a terrible cry—a cry, short, thrilling, rang out:

"We have him!"

Then the whole house was filled with uproar—exclamations, stampings, hoarse clamors, freezing me with terror. The man roared, the others panted; then there was a fall, as if the floor was being crashed through; after that I only heard the grinding of teeth and the rattle of manacles.

"Light!" cried the terrible Madoc.

And, while the sulphur flamed, casting its ghastly blue light throughout the room, I vaguely distinguished the police agents sitting on the man in shirt sleeves; one held his throat, the other pressed his knees into the villain's chest; Madoc closed the handcuffs on his wrists with a force enough to have broken the bones. The man seemed helpless; one only of his big legs, bare from the knee to the ankle, was raised from time to time, and struck against the floor with a convulsive movement; his eyes were literally starting from his head,

and a bloody froth was oozing from his lips.

I had scarcely lit the candle before an exclamation of surprise broke from the police agents:

"Our Dean!"

All three rose, and I saw them look at each other, pale with terror.

The bloodshot eye of the murderer turned towards Madoc. He tried to speak, but it was some seconds before I heard him murmur:

"What a dream!—my God, what a dream!"

I had gone close to look at him. It was he—the man who had given us such good advice on the road to Heidelberg. Perhaps he had had a presentiment that we should be the cause of his destruction; people sometimes have these terrible presentiments. As he no longer moved, and a streak of blood was stealing along the dusty floor, Madoc, recovered from his surprise, tore open his shirt; he then saw that he had stabbed himself to the heart with his large knife.

"Aha!" cried Madoc with a dark smile. "Master Dean has diddled the gallows. He knew when he was well off! All of you stop here while I go and inform the bailiff."

Picking up his hat, which had fallen off in the struggle, he went out without saying another word.

I remained with the two police agents in front of the corpse.

By eight o'clock in the morning all Heidelberg had learned the great news. It was an event in the country. Daniel Van den Berg, Dean of the Drapers, had enjoyed a fortune and consideration so firmly established, that numbers absolutely refused to believe in the abominable instincts by which he had been overcome.

These events were discussed in a thousand different ways. Some said that the rich Dean was a sleep-walker, and consequently irresponsible for his actions; others that he was a murderer for love of blood, having no serious interest in the committal of such crimes. Perhaps he was both the one and the other. It is an incontestable fact that the moral being, the will, the soul—it matters little what it is called—exists no longer in the somnambulist. Now, the

animal, abandoned to itself, naturally submits to the impulsion of its pacific or sanguinary instincts; and the thick-set face of Daniel Van den Berg, his flat head, swelling out behind the ears, his long bristling moustaches, his green eyes, all proved that he, unfortunately, belonged to the cat species—a terrible race, that kill for the mere pleasure of killing.

However that may be, my companions were set at liberty. For a fortnight Annette was talked of as a model of devotion. She was even asked in marriage

by the son of Burgomaster Traugott, a romantic young gentleman who was the plague of his family. I hastened back to the Black Forest, where, from that time, I fulfilled the functions of *chef d'orchestre* at the *bouchon* of the Sabre-Vert, on the road to Tubingen. If you happen to pass that way and my story has interested you, come and see me. We'll empty two or three bottles together, and I'll tell you some things that will make your hair stand on end.—*Temple Bar.*

ON THE LIMITS OF SCIENCE.

BY WILLIAM FORSYTH, Q.C. M.P.

THE present age is an age distinguished by the supremacy of Science, and remarkable for the discoveries she has made. More has been done to unravel the mysteries of nature during a few recent generations than was accomplished for more than two thousand five hundred years before. And it is worth while to consider the cause of this, for undoubtedly, like everything else, there must be a cause for so marked and astonishing a contrast. The Greek mind was singularly acute and intelligent, and yet little or no progress was made in physical science by the gifted philosophers of that nation. The Romans could conquer the world, and yet they were ignorant of some of the commonest principles of mechanics and hydrostatics and astronomy such as are now familiar to intelligent schoolboys. Why was this? They had the same means of observation that we have, but they mistook altogether the conditions upon which alone scientific progress can be made. To learn the secrets of nature we must become her pupil. *Natura enim non nisi parendo vincitur*, as Bacon said, and we can ascertain her hidden laws and processes only by actual experiment and severe Induction. But experiment must be conducted under the influence of ideas proper to the subject matter, or it will be barren and unfruitful. It will not do merely to collect individual facts unless we know how to group and classify them, and unless we

can detect the significance of the varying results presented to our view, even although at the time we may not be able to explain them. Above all we must be unalterably convinced that every physical effect has a physical cause, and that our proper business is by careful observation and experiment to point out what this cause is, so far as our limited faculties will allow. But this was not the course pursued by the philosophers of Greece. They thought that they could reason out the causes of the phænomena of nature from certain principles which they assumed without any proof to be part of her constitution, but which really existed only in their own minds. They reasoned in fact *a priori*, by which process Scientific truths in physics will never be discovered; for it presupposes a knowledge of certain laws which can only be known by observation and experiment. I think it is Herschel who somewhere says that if a man were confined from childhood in a prison, he might be able to reason out all the truths of pure mathematics, but he never could tell, unless he saw it, what would become of a lump of sugar when thrown into water.

In illustration of this I will take as an instance the rise of water in a pump. It was matter of common experience that the suction of the piston was followed by the rise of water in the well. How was it to be accounted for? The Greeks had sense enough to see that a

vacuum was "created above the water, and having established in their minds a theory that 'Nature abhors a vacuum,' they thought this a sufficient reason to explain the occurrence. As Nature abhorred a vacuum, she testified her abhorrence by making the water fill it. Now, here there is obviously no physical cause given to account for the physical effect. It is merely an imaginary reason utterly unsupported by any mechanical proof. And yet this theory, that Nature abhors a vacuum, was accepted as a sufficient explanation of every phenomenon, of a fluid, whether liquid or aërial-form, rushing in to fill empty space, for more than two thousand years. At last, in the middle of the seventeenth century, when some engineers were employed by the Duke of Tuscany to sink a well near Florence of an unusual depth, it was found that the pump would not work. They applied to Galileo, then an old man living at Fiesole, to explain the reason, and he, half in jest and half in earnest, told them that he supposed that Nature did not abhor a vacuum above ten mètres. But Torricelli, a pupil of Galileo, applied himself to the problem, and he soon satisfied himself that a column of water thirty-three feet high, which is the utmost height to which water can be raised in a pump, must be raised by some mechanical force equivalent to the weight of the water supported. He made experiments, and found that the mechanical force was nothing else than the weight of the atmosphere. Here, then, was the discovery by scientific experiment of an unsuspected truth—that the air has definite weight, and a weight exactly equal to that of a column of water thirty-three feet high. But men are slow to admit what shocks a long-cherished opinion or prejudice, and it was not until Pascal demonstrated the truth of Torricelli's theory by experimentally showing that mercury in the barometer (invented by Torricelli) sinks as it is carried up a mountain—where, of course, the higher it goes the weight of the air is less—that men were absolutely convinced that atmospheric weight and pressure are the sole cause of the phenomenon. For, as Pascal observed, 'we cannot suppose that Nature abhors a vacuum at the foot of a mountain more than at the summit.'

To take another illustration : Why does flame mount upwards, and not, like all other matter, fall downward to the earth ? The explanation of the Greek philosophers was this : some things, they said, had an inherent property of levity which gives them a tendency to rise, just as other things had an inherent property of gravity which gave them a tendency to fall. Now, fire, one of the four elements of which they conceived all matter to consist, had, they supposed, in itself the property of lightness or levity, and hence it rose. And with this explanation they were perfectly content. Here, again, they assumed a principle of levity to exist in Nature of which they had not a shadow of proof from experiment. They merely conjectured it in their minds because otherwise they could not account for the fact which they observed. We, however, know that there is no such thing as specific levity in Nature, that nothing is withdrawn from the operation of the universal law of gravity—and the reason why bodies rise in the air or water is because they are subject to the mechanical weight or pressure of the surrounding fluid—and if the body is lighter than the weight of the quantity of fluid which it displaced, it is pressed up as necessarily as a weight which is raised by the hand.

So again with regard to astronomy. The Greeks were intelligent observers of the heavenly bodies, and they had amongst them able mathematicians, but instead of ascertaining by careful and accurate observation what the actual curves were which the planets described, they set out with a theory that as the circle is the most perfect of figures it must necessarily follow that the planets revolve in circles, and they framed a most ingenious and complicated system of excentric circles and epicycles, which, in a sort of fashion, did account for the movements of the celestial bodies. Thus also when Aristotle tried to explain why, when the Sun's light passed through a square hole, the bright image is round, instead of imitating the figure of the hole, as shadows resemble the figures of their substance, he said that the sun's light has a circular nature, which it always tends to manifest. The true explanation, of course, is that the sun itself is a circular body, and light is dif-

fused from it by rays proceeding from every point; but as to light being in itself of a circular nature, that was a mere imaginary hypothesis existing only in the mind. So likewise, to explain the problem of the lever, Aristotle assumed that one motion is according to nature and the other contrary to nature, which left the mechanical problem without any solution at all.

We need not go through the dreary waste of the Middle Ages—dreary, I mean, as regards scientific truths—for unless we make an exception in the case of Roger Bacon, it was not illuminated by a single ray of scientific discovery. Nor is this at all surprising. The tone and temper of that dark period were utterly unfit for the investigation of truth. The mind of Western Europe lay spell-bound under the domination of one great name, and it was thought almost blasphemous to question the authority of Aristotle in any matter of physical science or moral philosophy. *Ipse dixit* was generally thought a conclusive answer to any curious enquiry, and it was expressly asserted that the whole of philosophy was contained in his logic. Instead, however, of the four elements, earth, fire, air, and water, which the ancients believed to be the primæval constituents of all things, the writers of the Middle Ages substituted salt, sulphur, and mercury, and, like the Greeks and Romans, they assumed certain principles to explain phenomena—such as that fluids do not gravitate *in proprio loco*. Thus water does not gravitate on water because it is in its own place, and air has no gravity on water because it is above water, which is its proper place, and earth in water descends because its proper place is below water.

The distinguishing merit of Bacon in the history of Science was not that he himself made any actual discoveries, but that he was the first to emancipate the human intellect from the thraldom of Aristotle. He says in his *Advancement of Learning*, ‘For as water will not ascend higher than the level of the first spring-head from whence it descendeth, so knowledge derived from Aristotle, and exempted from liberty of examination, will not rise again higher than the knowledge of Aristotle.’ And again, ‘Antiquity deserveth that reverence, that men

should make a stand thereupon and discover what is the best way; but when the discovery is well taken, then to make progression.’ But more than this—Bacon first insisted upon the true and only method by which the secrets of nature can be made known, namely, patient experiment and severe induction.

I need not occupy space by even glancing at the magnificent results which Science has achieved since men began to follow the right track and patiently explore the mysteries of Nature by a careful attention to the conditions under which alone she will reveal a knowledge of her laws. Of all the physical sciences chemistry seems to be the one in which the most wonderful discoveries have been made, and such as interest and fascinate us most. She can decompose the rocks which form the skeleton of the globe, and then, by fusing the constituents together in different proportions, produce compounds which are the same as the quartz and lime and sand and clay which exist in such abundance in nature. She shows that all vegetable and animal life is sustained by combustion, which at first appears a paradox, but is, nevertheless, strictly true. In animals the seat of combustion is the lungs—the substance burnt is sugar, which consists of carbon, hydrogen, and oxygen—and the products of the combustion are carbonic acid gas and aqueous vapor.

It is, however, unnecessary to speak of the progress and triumphs of Science. No one is more willing than myself to do her homage, and in her proper sphere she reigns unrivalled and supreme. Nor is the habit of mind which she requires in her votaries useful only in her peculiar domain. We use the word Science with reference to other things than the material universe. Thus we speak of the science of political economy, and metaphysical science, and the science of jurisprudence. When we dignify them by that name we mean that we can reason from certain principles and deduce certain results in logical sequence from them. There is, in fact, in almost all subjects, a scientific and an unscientific method of enquiry, and it is impossible to exaggerate the importance of adopting the former in preference to the latter. But after having said all this,

there are certain words of caution which seem to be peculiarly needed at the present time. The danger of too exclusive a devotion to physical science is that the mind is so occupied with secondary causes that it is tempted to rest upon and be satisfied with them as if they were the final and efficient causes of all the phenomena of nature. Link after link in the great chain of causation is unrolled under the searching analysis of the philosopher, until he is apt to forget that he can never get to the end of the chain, and he contents himself with the idea that it is self-supporting. In other words, he is in danger of substituting the blind energy of matter and its inherent properties for an intelligent First Cause, by whose almighty will that energy and those properties were given. The consequence of this, if not corrected by other views, is first scepticism, and then denial of a Creator. Religion, of course, can have no place in such a theory—indeed, the word Supernatural can have no meaning where nature is supposed to be self-sufficient to produce everything. This, then, is the danger, and I will venture to suggest some considerations which will show that such a result is not only unsupported by fact, but is, in the strictest sense of the word, unphilosophical. For Philosophy does not imagine causes. She only investigates and verifies them. And the most exhaustive analysis which chemistry can apply to the composition of matter absolutely and entirely fails when we attempt to account for and explain its essential properties. Let me expand my meaning more fully. All the matter with which man is acquainted is composed of one or more of elementary substances, such as calcium, carbon, hydrogen, oxygen, nickel, phosphorus, silicon, sulphur, sodium, mercury, the ordinary metals, and the rest. By elementary substances I mean those which so far as we know at present cannot be decompounded, although very possibly we shall find at some future time that some of them will yield to solvents and prove to be compound bodies. This, however, is quite immaterial to my argument. This we know with absolute certainty, that they have the power of combining together in certain definite proportions by what is called chemical affinity. Thus water consists

of two permanent gases, oxygen and hydrogen, condensed by the force of chemical affinity to a liquid condition. One cubic foot of water yields more than eighteen hundred cubic feet of a mixture of these two gases, and so great is their power to resist pressure, that a weight of twenty tons to a square inch is not sufficient to reduce them to a liquid state. Let us consider what must be the force or forces in a little drop of water which are able to overcome the mighty tendency of the gases to expand themselves into an aërial form condition. They can be decomposed by electricity, but Faraday proved that it requires more electricity to decompose a drop of water than to charge a thunder cloud. Now, I want to know if the materialist can tell me anything of the origin or nature of this prodigious power, or, indeed, of the cause of chemical affinity at all. We can in imagination build up this world of ours out of the elementary substances I have mentioned; that is, we can show that all the mountains and rocks and lands and seas are actually formed by certain combinations of them. Thus calcium combined with oxygen produces lime, silicon combined with oxygen produces silica or quartz, aluminum combined with oxygen produces alumina, and alumina combined with silica produces clay, and so on. But no chemist can tell us why these bodies so combine, and why such and such a body is the result. But, more than this; every solid body, when slowly deposited from a liquid or aërial form condition, assumes a definite symmetrical shape, which we call crystal, and the process by which it is so formed we call crystallisation. Now, it is a most remarkable fact that all crystals, without exception, are solids bounded by plane faces, symmetrically disposed about certain straight lines called axes. No mathematician could determine the angles which the axes and planes in the different figures, by a constant law, make with each other with more accuracy than they are found to exist in nature. Moreover, we find numerical relations of the most remarkable kind to exist in the proportions in which alone natural substances will combine, and these numerical relations exist also in plants when we ascend into the region of vegetable life.

Nothing is more striking in Botany than the mode in which certain numbers, such as three and five and their multiples, prevail. Plants which are monocotyledonous—that is, have only one seed-leaf—have generally, if not always, three sepals in the calyx, and three petals or multiples of three on the corolla; while those which are dicotyledonous—that is, have two seed-leaves—have for the most part five sepals, and five petals, and five stamens, or multiples of five. The same is true if four be what we may call the ruling number in any family of plants. The disposition of the leaves on the stem follows also a most curious numerical law.

Let us pause here. Are not ideas of symmetry and number inherent in the human mind as purely intellectual conceptions? And can we believe them to be exhibited in nature by a mere concourse of atoms, or by self-existing and self-created properties of matter without the intervention of intelligence and mind? The naturalist here is utterly at fault. He does not even attempt a solution. He arrives at these ultimate results by observation and experiment in a legitimate manner, and then he arbitrarily frames an hypothesis of which he has not a shadow of proof, and asks us to assume that there are ultimately self-created forces or atoms or molecules, of which he confesses he knows nothing, which of themselves were able to evolve symmetry and order and numerical proportion, and, in fact, create the universe as we find it. Now this, I say, is unphilosophical in the highest degree. It is little better than going back to the occult qualities of nature by which the philosophers of antiquity sought to explain phenomena, whereas, in fact, they explained nothing.

The truth is, we know nothing of the ultimate constituents and the cause of the formative power of matter. If we confine ourselves to matter alone, that will tell us nothing about them, although we can by analysis and experiment discover the modes and processes and conditions under which they work. We know that what we call gravitation is a force by which every particle of matter attracts every other particle and which varies inversely as the square of the dis-

tance, just as we know that twenty-three parts of sodium will exactly unite with 35.5 of chlorine and produce common salt. But as to what gravitation really is, and as to the reason why bodies will unite in only fixed and definite proportions, we are profoundly and helplessly ignorant. Take, again, Botany. We can trace the growth of a plant from a minute cell into root, stem, leaf, and flower. We can see as a fact that the pollen of the anthers of the stamens must strike the stigma of the pistil, and be conveyed down the style to the ovary in order that fecundation may be there produced, and the minute cell formed, which, by the addition of other cells perpetually superadded, grows up into the perfect plant. But by virtue of what powers such a life-producing cell is created—which by the absorption of moisture from the ground, and the agency of solar light and heat, is able to produce a plant ‘whose seed is in itself,’ and continue the species through thousands of years—matter itself tells us nothing. We can collect together all the constituents of a plant and place them together and combine them as we please, but unless we have a pre-existing seed we are absolutely powerless to obtain vegetable life. And were it not that there are no degrees of impossibility, I might say that it is still more impossible for us, by any composition of substances, to create animal life. But even admitting the wild supposition that it might be possible for us, by combinations of inorganic matter, to start into existence organic life, we should be no nearer the solution of the problem, which is to explain why such and such material causes should be capable of producing such effects.

If therefore this be so, and the natural philosopher is obliged to confess his ignorance of the nature of ultimate material causes, he has no right whatever to speak of them, or even hint at them, as self-created and self-sufficient to produce not only the world of matter but the world of reason and intelligence. He knows nothing about them, and all that he can predicate of them is conjecture and unverified hypothesis. And surely he incurs a very grave responsibility, if, notwithstanding this, he throws out utterances which, however vague

and unwarranted, the mass of mankind will believe to be justified by the conclusions of Science, and which, if true, would absolutely destroy religion, and even destroy the very notion of moral responsibility. I do think that we have a right to complain that a man like Professor Tyndall should, in the chair of the British Association at Belfast, have used language which it is difficult by any charitable construction to exculpate from this charge of teaching mere materialism in its most uncompromising form. Unless it were for the purpose of aiming a blow at Theism, by which I mean the belief in a Supreme Intelligence, I know not for what purpose he paraded the names of Leucippus and Democritus, and Epicurus and Lucretius, and dwelt at such length on the doctrine of atoms and molecules. He said, 'Abandoning all disguise, the confession that I feel bound to make before you is that I prolong the vision backward across the boundary of the experimental evidence, and discern in that matter which we in our ignorance, and notwithstanding our professed reverence for its Creator, [have hitherto covered with opprobrium, the promise and potency of every form and quality of life.]' And again, 'The animal body is just as much the product of molecular force as the stalk and ear of corn, or as the crystal of salt or sugar.' And this is followed by the melancholy conclusion that the theme 'will be handled by the loftiest minds after you and I, like streaks of morning cloud, shall have melted into the infinite azure of the past.' The infinite azure of the past!—that is the dreary idea of non-existence which this philosopher would have us take in exchange for 'our hope full of immortality.'

O star-eyed Science! hast thou wandered there,
To waft us home the message of despair?

Now, if all Professor Tyndall had said was that matter has the promise and potency of every form and quality of material existence, he would have been strictly justified by facts. For undoubtedly all the material universe has been built up by the combination and play of material elements and force. And we believe that this is so because an intelli-

gent Creator endowed those elements with the mysterious power. But Professor Tyndall speaks of 'every form and quality of life;' including, therefore, human life, and all its manifestations of intelligent thought. Or if he did not mean this he ought to have distinctly said so. The animal body, no doubt, is the product of molecular force as much as the stalk and ear of corn, but what of animal life? We can decompose an animal body into its constituent elements by analysis; but by no synthesis, however we may contrive and unite these elements in the same exact proportions as they existed in the living body, can we produce life. This is something superadded which transcends the utmost powers of chemistry to effect. In fact, chemistry cannot account for the efficient cause of the growth of a single blade of grass, still less for the growth and spontaneous motion of a single animal, although the very lowest in the scale. Professor Tyndall substitutes an arbitrary hypothesis for an experimental fact, and this I call utterly unphilosophical. I know that he has since confessed that his materialistic theory 'does not commend itself to his mind in hours of clearness and vigor,' and that 'in the presence of stronger and healthier thought it even dissolves and disappears.' Why, then, did he in the chair of the British Association prefer to proclaim to the world the fancies of his weak and unhealthy thought, instead of the conclusions to which he was led when his mind was in a state of clearness and vigor? He must have known that the effect would be to unsettle the belief of thousands, and cause disquietude and alarm, and even misery.

It is not necessary to confute a theory of which it is not possible to demonstrate either the truth or falsehood by physical experiment. What I complain of is that scientific men should quit the domain of science, and substitute conjecture for proof, and imagination for reality. We have, I think, a notable instance of this in Dr. Darwin's doctrine of the development of species. He makes larger assumptions and more unsupported guesses than are to be found in any other book with which I am acquainted. He thinks that because from the rock pigeon we can, by careful

breeding and intercrossing, obtain every variety of pigeon, this may be taken as an indication, if not proof, that one species may slide into another, and so the existence of all species may be accounted for. But pigeons are essentially pigeons, however much they may differ in natural form and development, just as all men are essentially men, however much the Papuan may differ from the European. If the Darwinian theory be true, why is it that no one since the creation of the world has been able by breeding and intercrossing to pass from one distinctly marked species to another? Have we any solid reason to believe if this were tried for a million years such a result, or any similar result, would be obtained? If the theory of development be true, and man is descended from a jelly-fish through some arboreal animal with pointed ears and a long tail, why is it that between the chimpanzee or gorilla and the most degraded form of humanity naturalists have never been able to discover a single instance, whether fossil or otherwise, of the intermediate and missing link? We must take facts as we find them, and admitting that for every species a single embryo originally contained 'the promise and potency of every form and quality' of that species, we are compelled by observation and experiment to conclude that there are in nature impassable barriers of a kind unknown to our understanding, which prevent the propagation of one species from another—except within the narrowest limits, where, in fact, the difference is more imaginary than real, and proceeds chiefly from our own imperfect classification. Again, I say that to substitute the theory of development to the extent to which Dr. Darwin would carry it (for undoubtedly within certain very narrow limits the theory is true), in opposition to the facts of history and observation and experiment, is, according to my notion of the meaning of the word, unphilosophical.

I have said nothing about the argument from design, not because I do not admit its force, but because I wish to meet the materialist on his own ground, and to show that it is not his knowledge but his ignorance which gives birth to his hypothesis. Science can do

no possible harm so long as science confines herself to her own domain, but when she comes forward as the antagonist of religion she only does so by quitting the field of experiment and fact and indulging in conjecture. I wish to insist upon the limits within which alone scientific knowledge is possible. There are, so far as I know, no limits to our knowledge of the laws and processes of nature. These are facts which patient industry can discover. But when we have mastered them all we are as far off as ever from solving the riddle of the universe. For still there comes the everlasting question *why* and *how* were the elements of matter invested with their wonder-working process? This Philosophy can never answer, and therefore Philosophy has no right to throw doubt upon the existence of a supreme and intelligent first cause or, in a word, God, who withdraws Himself, indeed, behind the veil of His works, but gives tokens of His Being by the order and harmony of creation, by the marvellous adaptation of means to ends, the exquisite balance of opposing forces, and the innate conviction we irresistibly feel that the world-building must have had an architect, and that Intelligence must have presided over the arrangement of the properties and forms of even brute matter.

When Galileo asserted the motion of the earth he was denounced as a heretic, and when almost in our own day geology revealed the unsuspected fact that this earth of ours has existed for millions of years, an outcry was heard that religion was in danger. But no one now believes that the grounds of our faith have been disturbed by either astronomy or geology. We take a juster view of the Hebrew Scripture, and no longer expect to find there a premature revelation of scientific truths. And if we steadily bear this in mind, it is not possible for any discoveries in science to cause serious apprehension. We feel sure that they will never disprove or throw any reasonable doubt upon the existence of a Creator; although they may show that the writers of the Old Testament were not instructed as to the causes of physical phenomena, which have no connection with man's moral and religious duties. If, indeed, we

take a narrow and prejudiced view, and adopt a theory of inspiration which will be content with nothing less than literal accuracy, we shall find our theology in perpetual conflict with science; and it is not necessary to say which of the two will triumph in the end. But if Science

steps out of her lines and seeks to assail the citadel of religion, she never can by any legitimate logic or experimental test disprove what the poet has said :

All are but parts of one stupendous whole
Whose body nature is, and God the soul.

Fraser's Magazine.

EARLY KINGS OF NORWAY.

BY THOMAS CARLYLE.

CHAPTER XI.

MAGNUS THE GOOD AND OTHERS.

ST. OLAF is the highest of these Norway Kings, and is the last that much attracts us. For this reason, if a reason were not superfluous, we might here end our poor reminiscences of these dim Sovereigns. But we will, nevertheless, for the sake of their connection with bits of English History, still hastily mention the names of one or two who follow, and who throw a momentary gleam of life and illumination on events and epochs that have fallen so extinct among ourselves at present, though once they were so momentous and memorable.

The new King Svein, from Jomsburg, Knut's natural son, had no success in Norway, nor seems to have deserved any. His English mother and he were found to be grasping, oppressive persons; and awoke, almost from the instant that Olaf was suppressed and crushed away from Norway into Heaven, universal odium more and more in that country. Well-deservedly, as still appears; for their taxings and extortions of malt, of herring, of meal, smithwork and every article taxable in Norway, were extreme; and their service to the country otherwise nearly imperceptible. In brief their one basis there was the power of Knut the Great; and that, like all earthly things, was liable to sudden collapse,—and it suffered such in a notable degree. King Knut, hardly yet of middle age, and the greatest King in the then world, died at Shaftesbury, in 1035 as Dahlmann thinks,*—leaving two legitimate

sons and a busy, intriguing widow (Norman Emma, widow of Ethelred the Unready), mother of the younger of these two; neither of whom proved to have any talent or any continuance. In spite of Emma's utmost efforts, Harald, the elder son of Knut, not hers, got England for his kingdom; Emma and her Harda-Knut had to be content with Denmark, and go thither, much against their will. Harald in England,—light-going little figure like his father before him,—got the name of Harefoot here; and might have done good work among his now orderly and settled people; but he died almost within year and day; and has left no trace among us, except that of 'Harefoot,' from his swift mode of walking. Emma and her Harda-Knut now returned joyfully to England. But the violent, idle and drunken Harda-Knut did no good there; and, happily for England and him, soon suddenly ended, by stroke of apoplexy at a marriage festival, as mentioned above. In Denmark he had done still less good. And indeed, under him, in a year or two, the grand imperial edifice, laboriously built by Knut's valor and wisdom, had already tumbled all to the ground, in a most unexpected and remarkable way. As we are now to indicate with all brevity.

Svein's tyrannies in Norway had wrought such fruit that, within the four years after Olaf's death, the chief men in Norway, the very slayers of King Olaf, Kalf Arneson at the head of them, met secretly once or twice, and unanimously agreed that Kalf Arneson must go to Sweden, or to Russia itself; seek young Magnus, son of Olaf, home: excellent Magnus, to be king over all Norway and them, instead of this intolera-

* *Saxon Chronicle* says: '1035. In this year died King Cnut . . . He departed at Shaftesbury, November 12, and they conveyed him thence to Winchester and there buried him.'

ble Svein. Which was at once done,—Magnus brought home in a kind of triumph, all Norway waiting for him. Intolerable Svein had already been rebelled against: some years before this, a certain young Trygge out of Ireland, authentic son of Olaf Tryggveson and of that fine Irish Princess who chose him in his low habiliments and low estate, and took him over to her own Green Island,—this royal young Tryggve Olafsson had invaded the usurper Svein, in a fierce, valiant and determined manner; and though with too small a party, showed excellent fight for some time; till Svein, zealously bestirring himself, managed to get him beaten and killed. But that was a couple of years ago; the party still too small, not including one and all as now! Svein, without stroke of sword this time, moved off towards Denmark; never shewing face in Norway again. His drunken brother, Harda-Knut, received him brother-like; even gave him some territory to rule over and subsist upon. But he lived only a short while; was gone before Harda-Knut himself; and we will mention him no more.

Magnus was a fine bright young fellow, and proved a valiant, wise, and successful King, known among his people as Magnus the Good. He was only natural son of King Olaf; but that made little difference in those times and there. His strange-looking, unexpected Latin name he got in this way: Alfhild, his mother, a slave through ill-luck of war, though nobly-born, was seen to be in a hopeful way; and it was known in the King's house how intimately Olaf was connected with that occurrence, and how much he loved this 'King's serving-maid,' as she was commonly designated. Alfhild was brought to bed late at night; and all the world, especially King Olaf, was asleep; Olaf's strict rule, then and always, being, don't awaken me:—seemingly a man sensitive about his sleep. The child was a boy, of rather weakly aspect; no important person present, except Sigvat, the King's Icelandic Skald, who happened to be still awake; and the Bishop of Norway, who, I suppose, had been sent for in hurry. "What is to be done?" said the Bishop, "here is an infant in pressing need of baptism; and we know not what the

name is: go, Sigvat, awaken the King, and ask." "I dare not for my life," answered Sigvat. "King's orders are rigorous on that point." "But if the child die unbaptised," said the Bishop shuddering; too certain, he and everybody, where the child would go in that case! "I will myself give him a name," said Sigvat, with a desperate concentration of all his faculties; "he shall be namesake of the greatest of mankind,—imperial Carolus Magnus; let us call the infant Magnus!" King Olaf, on the morrow, asked rather sharply how Sigvat had dared take such a liberty; but excused Sigvat, seeing what the perilous alternative was. And Magnus, by such accident, this boy was called; and he, not another, is the prime origin and introducer of that name Magnus, which occurs rather frequently, not among the Norway Kings only, but by and by among the Danish and Swedish; and, among the Scandinavian populations, appears to be rather frequent to this day.

Magnus, a youth of great spirit, whose own, and standing at his beck, all Norway now was, immediately smote home on Denmark; desirous naturally of vengeance for what it had done to Norway, and the sacred kindred of Magnus. Denmark, its great Knut gone, and nothing but a drunken Harda-Knut, fugitive Svein and Co., there in his stead, was become a weak dislocated Country. And Magnus plundered in it, burnt it, beat it, as often as he pleased; Harda-Knut struggling what he could to make resistance or reprisals, but never once getting any victory over Magnus. Magnus, I perceive, was, like his Father, a skilful as well as valiant fighter by sea and land; Magnus, with good battalions, and probably backed by immediate alliance with Heaven and St. Olaf, as was then the general belief or surmise about him, could not easily be beaten. And the truth is, he never was, by Harda-Knut or any other. Harda-Knut's last transaction with him was, To make a firm Peace and even Family-treaty sanctioned by all the grandees of both countries, who did indeed mainly themselves make it; their two Kings assenting: That there should be perpetual Peace, and no thought of war more, between Denmark and Norway; and that if eith-

er of the Kings died childless while the other was reigning, the other should succeed him in both Kingdoms. A magnificent arrangement, such as has several times been made in the world's history; but which in this instance, what is very singular, took actual effect; drunken Harda-Knut dying so speedily, and Magnus being the man he was. One would like to give the date of this remarkable Treaty; but cannot with precision. Guess somewhere about 1040.* actual fruition of it came to Magnus, beyond question, in 1042, when Harda-Knut drank that wassail bowl at the wedding in Lambeth, and fell down dead; which in the *Saxon Chronicle* is dated 3rd June of that year. Magnus at once went to Denmark on hearing this event; was joyfully received by the head men there, who indeed, with their fellows in Norway, had been main contrivers of the Treaty; both countries longing for mutual peace, and the end of such incessant broils.

Magnus was triumphantly received as King in Denmark. The only unfortunate thing was, that Svein Estrithson, the exile son of Ulf, Knut's Brother-in-law, whom Knut, as we saw, had summarily killed twelve years before, emerged from his exile in Sweden in a flattering form; and proposed that Magnus should make him Jarl of Denmark, and general administrator there, in his own stead. To which the sanguine Magnus, in spite of advice to the contrary, insisted on acceding. "Too powerful a Jarl," said Einar Tamberskelver—the same Einar whose bow was heard to break in Olaf Tryggveson's last battle ("Norway breaking from thy hand, King!"), who had now become Magnus's chief man, and had long been among the highest chiefs of Norway; "too powerful a Jarl," said Einar earnestly. But Magnus disregarded it; and a troublesome experience had to teach him that it was true. In about a year, crafty Svein, bringing ends to meet, got himself declared King of Denmark for his own behoof, instead of Jarl for another's: and had to be beaten and driven out by Magnus. Beaten every year; but almost always returned next year, for a new beating,—

almost, though not altogether; having at length got one dreadful smashing-down and half-killing, which held him quiet a while,—so long as Magnus lived. Nay in the end, he made good his point, as if by mere patience in being beaten; and did become King himself, and progenitor of all the Kings that followed. King Svein Estrithson; so-called from Astrid or Estrith, his mother, the great Knut's sister, daughter of Svein Forkbeard by that amazing Sigrid the Proud, who burnt those two ineligible suitors of hers both at once, and got a switch on the face from Olaf Tryggveson, which provoked the death of that high man.

But all this high fortune of the often beaten Estrithson was posterior to Magnus's death; who never would have suffered it, had he been alive. Magnus was a mighty fighter; a fiery man; very proud and positive, among other qualities, and had such luck as was never seen before. Luck invariably good, said everybody; never once was beaten,—which proves, continued everybody, that his Father Olaf and the miraculous power of Heaven were with him always. Magnus, I believe, did put down a great deal of anarchy in those countries. One of his earliest enterprises was to abolish Jomsburg, and trample out that nest of pirates. Which he managed so completely that Jomsburg remained a mere reminiscence thenceforth; and its place is not now known to any mortal.

One perverse thing did at last turn up in the course of Magnus: a new Claimant for the Crown of Norway, and he a formidable person withal. This was Harald, half-brother of the late Saint Olaf; uncle or half-uncle, therefore, of Magnus himself. Indisputable son of the Saint's mother by St. Olaf's step-father, who was himself descended straight from Harald Haarfagr. This new Harald was already much heard of in the world. As an ardent Boy of fifteen he had fought at King Olaf's side at Stikelstad; would not be admonished by the Saint to go away. Got smitten down there, not killed; was smuggled away that night from the field by friendly help; got cured of his wounds, forwarded to Russia, where he grew to man's estate, under bright auspices and successes. Fell in love with the Russian

* Munch gives the date 1038 (ii. 840), Adam of Bremen 1040.

Princess, but could not get her to wife; went off thereupon to Constantinople as *Væringer* (Life-Guardsman of the Greek Kaiser); became Chief Captain of the Væringers, invincible champion of the poor Kaisers that then were, and filled all the East with the shine and noise of his exploits. An authentic *Waring* or *Baring*, such the surname we now have derived from these people; who were an important institution in those Greek countries for several ages: Væringer Life-Guard, consisting of Norsemen, with sometimes a few English among them. Harald had innumerable adventures, nearly always successful, sing the Skalds; gained a great deal of wealth, gold ornaments, and gold coin; had even Queen Zoe (so they sing, though falsely) enamoured of him at one time; and was himself a Skald of eminence; some of whose verses, by no means the worst of their kind, remain to this day.

This character of Waring much distinguishes Harald to me; the only Væringer of whom I could ever get the least biography, true or half-true. It seems the Greek History-books but indifferently correspond with these Saga records; and scholars say there could have been no considerable romance between Zoe and him, Zoe at that date being 60 years of age! Harald's own lays say nothing of any Zoe, but are still full of longing for his Russian Princess far away.

At last, what with Zoes, what with Greek perversities and perfidies, and troubles that could not fail, he determined on quitting Greece; packed up his immensities of wealth in succinct shape, and actually returned to Russia, where new honors and favors awaited him from old friends, and especially, if I mistake not, the hand of that adorable Princess, crown of all his wishes for the time being. Before long, however, he decided farther to look after his Norway Royal heritages; and, for that purpose, sailed in force to the Jarl or quasi-King of Denmark, the often-beaten Svein, who was now in Sweden on his usual winter exile after beating. Svein and he had evidently interests in common. Svein was charmed to see him,—so warlike, glorious and renowned a man, with masses of money about him too. Svein did by and by become treacher-

ous; and even attempted, one night, to assassinate Harald in his bed on board ship: but Harald, vigilant of Svein, and a man of quick and sure insight, had providently gone to sleep elsewhere, leaving a log instead of himself among the blankets. In which log, next morning, treacherous Svein's battle-axe was found deeply sticking; and could not be removed without difficulty! But this was after Harald and King Magnus himself had begun treating; with the fairest prospects,—which this of the Svein battle-axe naturally tended to forward, as it altogether ended the other copartnery.

Magnus, on first hearing of Væringer Harald and his intentions, made instant equipment, and determination to fight his uttermost, against the same. But wise persons of influence round him, as did the like sort round Væringer Harald, earnestly advised compromise and peaceable agreement. Which, soon after that of Svein's nocturnal battle-axe, was the course adopted; and, to the joy of all parties, did prove a successful solution. Magnus agreed to part his kingdom with Uncle Harald; uncle parting his treasures, or uniting them with Magnus's poverty. Each was to be an independent king, but they were to govern in common; Magnus rather presiding. He to sit, for example, in the High Seat alone; King Harald opposite him in a seat not quite so high, though if a stranger King came on visit, both the Norse Kings were to sit in the High Seat. With various other punctilious regulations; which the fiery Magnus was extremely strict with; rendering the mutual relation a very dangerous one, had not both the Kings been honest men, and Harald a much more prudent and tolerant one than Magnus. They, on the whole, never had any weighty quarrels, thanks now and then rather to Harald than to Magnus. Magnus too was very noble; and Harald, with his wide experience and greater length of years, carefully held his heat of temper well covered in.

Prior to Uncle Harald's coming, Magnus had distinguished himself as a Law-giver. His Code of Laws for the Trondhjem Province was considered a pretty piece of legislation; and in subsequent times got the name of 'Grey-goose'

Grágas); one of the wonderliest names ever given to a wise Book. Some say it came from the grey color of the parchment, some give other incredible origins; the last guess I have heard is, that the name merely denotes antiquity; the witty name in Norway for a man growing old having been, in those times, that he was now becoming a grey-goose. Very fantastic indeed; certain, however, that Grey-goose is the name of that venerable Law-Book; nay, there is another, still more famous, belonging to Iceland, and not far from a century younger, the Iceland *Grey-goose*. The Norway one is perhaps of date about 1037, the other of about 1118; peace be with them both! Or, if anybody is inclined to such matters, let him go to Dahlmann, for the amplest information and such minuteness of detail as might almost enable him to be an Advocate, with Silk Gown, in any Court depending on these Grey-geese.

Magnus did not live long. He had a dream one night of his Father Olaf's coming to him in shining presence, and announcing, That a magnificent fortune and world-great renown was now possible for him; but that perhaps it was his duty to refuse it; in which case, his earthly life would be short. "Which way wilt thou do, then?" said the shining presence. "Thou shalt decide for me, Father, thou, not I!" and told his Uncle Harald on the morrow, adding that he thought he should now soon die; which proved to be the fact. The magnificent fortune, so questionable otherwise, has reference, no doubt, to the Conquest of England; to which country Magnus, as rightful and actual King of Denmark, as well as undisputed heir to drunken Harda-Knut, by treaty long ago, had now some evident claim. The enterprise itself was reserved to the patient, gay and prudent Uncle Harald; and to him it did prove fatal,—and merely paved the way for Another, luckier, not likelier!

Svein Estrithson, always beaten during Magnus's life, by and by got an agreement from the prudent Harald to be king of Denmark, then; and end these wearisome and ineffectual babbles; Harald having other work to do. But in the autumn of 1066, Tosti, a younger son of our English Earl God-

win, came to Svein's court with a most important announcement; namely, that King Edward the Confessor, so-called, was dead, and that Harold, as the English write it, his eldest Brother, would give him, Tosti, no sufficient share in the kingship. Which state of matters, if Svein would go ahead with him to rectify it, would be greatly to the advantage of Svein. Svein, taught by many beatings, was too wise for this proposal; refused Tosti, who indignantly stepped over into Norway, and proposed it to King Harald there. Svein really had acquired considerable teaching, I should guess, from his much beating and hard experience in the world; one finds him afterwards the esteemed friend of the famed Historian Adam of Bremen, who reports various wise humanities, and pleasant discourses with Svein Estrithson.

As for Harald Hardrade, 'Harald the Hard or Severe,' as he was now called, Tosti's proposal awakened in him all his old Væringer ambitions and cupidities into blazing vehemence. He zealously consented; and at once, with his whole strength, embarked in the adventure. Fitted out two hundred ships, and the biggest army he could carry in them; and sailed with Tosti towards the dangerous Promised Land. Got into the Tyne, and took booty; got into the Humber, thence into the Ouse; easily subdued any opposition the official people or their populations could make; victoriously scattered these, victoriously took the City of York in a day; and even got himself homaged there, 'King of Northumberland,' as per covenant,—Tosti proving honorable,—Tosti and he going with faithful strict copartnery, and all things looking prosperous and glorious. Except only (an important exception!) that they learnt for certain, English Harold was advancing with all his strength; and, in a measurable space of hours, unless care were taken, would be in York himself. Harald and Tosti hastened off to seize the post of Stamford Bridge on Derwent River, six or seven miles east of York City, and there bar this dangerous advent. Their own ships lay not far off in Ouse River, in case of the worst. The battle that ensued the next day, September 20, 1066, is forever memorable in English history.

Snorro gives vividly enough his view

of it from the Icelandic side: A ring of stalwart Norsemen, close ranked, with their steel tools in hand; English Harold's Army, mostly cavalry, prancing and pricking all round; trying to find or make some opening in that ring. For a long time trying in vain, till at length, getting them enticed to burst out somewhere in pursuit, they quickly turned round, and quickly made an end of that matter. Snorro represents English Harold, with a first party of these horse coming up, and, with preliminary salutations, asking if Tosti were there, and if Harald were; making generous proposals to Tosti; but, in regard to Harald and what share of England was to be his, answering Tosti with the words, "Seven feet of English earth, or more if he require it, for a grave." Upon which Tosti, like an honorable man and copartner, said, "No, never; let us fight you rather till we all die." "Who is this that spoke to you?" inquired Harald, when the cavaliers had withdrawn. "My brother Harold," answers Tosti, which looks rather like a Saga, but may be historical after all. Snorro's history of the battle is intelligible only after you have premised to it, what he never hints at, that the scene was on the east side of the bridge and of the Derwent; the great struggle for the bridge, one at last finds, was after the fall of Harald; and to the English Chroniclers, said struggle, which was abundantly severe, is all they know of the battle.

Enraged at that breaking loose of his steel ring of infantry, Norse Harald blazed up into true Norse fury, all the old Væringir and Berserkir rage awakening in him; sprang forth into the front of the fight, and mauled and cut and smashed down, on both hands of him, everything he met, irresistible by any horse or man, till an arrow cut him through the windpipe, and laid him low forever. That was the end of King Harald and of his workings in this world. The circumstance that he was a Waring or Baring, and had smitten to pieces so many Oriental cohorts or crowds, and had made love-verses (kind of iron madrigals) to his Russian Princess, and caught the fancy of questionable Greek queens, and had amassed such heaps of money, while poor nephew Magnus had

only one gold ring (which had been his father's, and even his father's mother's, as Uncle Harald noticed), and nothing more whatever of that precious metal to combine with Harald's treasures:—all this is new to me, naturally no hint of it in any English book; and lends some gleam of romantic splendor to that dim business of Stamford Bridge, now fallen so dull and torpid to most English minds, transcendently important as it once was to all Englishmen. Adam of Bremen says, the English got as much gold plunder from Harald's people as was a heavy burden for twelve men,* a thing evidently impossible, which nobody need try to believe. Young Olaf, Harald's son, aged about sixteen, steering down the Ouse at the top of his speed, escaped home to Norway with all his ships, and subsequently reigned there with Magnus, his brother. Harald's body did lie in English earth for about a year; but was then brought to Norway for burial. He needed more than seven feet of grave, say some; Laing, interpreting Snorro's measurements, makes Harald eight feet in stature,—I do hope, with some error in excess!

CHAPTER XII.

OLAF THE TRANQUIL, MAGNUS BAREFOOT, AND SIGURD THE CRUSADER.

THE new King Olaf, his brother Magnus having soon died, bore rule in Norway for some five-and-twenty years. Rule soft and gentle, not like his father's, and inclining rather to improvement in the arts and elegancies than to anything severe or dangerously laborious. A slim-built, witty-talking, popular and pretty man, with uncommonly bright eyes, and hair like floss silk: they called him Olaf *Kyrre* (the Tranquil or Easy-going).

The ceremonials of the palace were much improved by him. Palace still continued to be built of huge logs pyramidal sloping upwards, with fireplace in the middle of the floor, and no egress for smoke or ingress for light except right overhead, which, in bad weather, you could shut, or all but shut, with a lid. Lid originally made of mere

* Camden, Rapin, &c., quote.

opaque board, but changed latterly into a light frame, covered (*glazed*, so to speak) with entrails of animals, clarified into something of pellucidity. All this Olaf, I hope, further perfected, as he did the placing of the court ladies, court officials, and the like; but I doubt if the luxury of a glass window were ever known to him, or a cup to drink from that was not made of metal or iron. In fact it is chiefly for his son's sake I mention him here; and with the son, too, I have little real concern, but only a kind of fantastic.

This son bears the name of Magnus *Barfod* (Barefoot, or Bareleg); and if you ask why so, the answer is: He was used to appear in the streets of Nidaros (Trondhjem) now and then in complete Scotch Highland dress. Authentic tartan plaid and philibeg, at that epoch,—to the wonder of Trondhjem and us! The truth is, he had a mighty fancy for these Hebrides and other Scotch possessions of his; and seeing England now quite impossible, eagerly speculated on some conquest in Ireland as next best. He did, in fact, go diligently voyaging and inspecting among those Orkney and Hebridean Isles; putting everything straight there, appointing stringent authorities, jarls,—nay, a king, 'Kingdom of the Suderöer' (Southern Isles, now called *Sodor*),—and, as first king, Sigurd, his pretty little boy of nine years. All which done, and some quarrel with Sweden fought out, he seriously applied himself to visiting in a still more emphatic manner; namely, to invading, with his best skill and strength, the considerable virtual or actual kingdom he had in Ireland, intending fully to enlarge it to the utmost limits of the Island if possible. He got prosperously into Dublin (guess A.D. 1102). Considerable authority he already had, even among those poor Irish Kings, or kinglets, in their glib and yellow saffron gowns; still more, I suppose, among the numerous Norse Principalities there. 'King Murdog, King of Ireland,' says the Chronicle of Man, 'had obliged himself, every Yule day, to take a pair of shoes, hang them over his shoulder, as your servant does on a journey, and walk across his court at bidding, and in presence of, Magnus Barefoot's mes-

senger, by way of homage to the said King.' Murdog on this greater occasion did whatever homage could be required of him; but that, though comfortable, was far from satisfying the great King's ambitious mind. The great King left Murdog; left his own Dublin; marched off westward on a general conquest of Ireland. Marched easily victorious for a time; had got, some say, into the wilds of Connaught, but there saw himself beset by ambuscades and wild Irish countenances intent on mischief, and had, on the sudden, to draw up for battle;—place, I regret to say, altogether undiscoverable to me; known only that it was boggy in the extreme. Certain enough, too certain and evident, Magnus Barefoot, searching eagerly, could find no firm footing there; nor, fighting furiously up to the knees or deeper, any result but honorable death! Date is confidently marked '24 August, 1103,'—as if people knew the very day of the month. The natives did humanely give King Magnus Christian burial. The remnants of his force, without farther molestation, found their ships on the Coast of Ulster; and sailed home,—without conquest of Ireland; nay, perhaps leaving royal Murdog disposed to be relieved of his procession with the pair of shoes.

Magnus Barefoot left three sons, all kings at once, reigning peaceably together. But to us, at present, the only noteworthy one of them was Sigurd; who, finding nothing special to do at home, left his brothers to manage for him, and went off on a far Voyage, which has rendered him distinguishable in the crowd. Voyage through the Straits of Gibraltar, on to Jerusalem, thence to Constantinople; and so home through Russia, shining with such renown as filled all Norway for the time being. A King called Sigurd Jorsalafarer (*Jerusalem*) or Sigurd the Crusader henceforth. His voyage had been only partially of the Viking type; in general it was of the Royal-Progress kind rather; Vikingism only intervening in cases of incivility or the like. His reception in the Courts of Portugal, Spain, Sicily, Italy, had been honorable and sumptuous. The King of Jerusalem broke out into utmost splendor and effusion at sight of

such a pilgrim; and Constantinople did its highest honors to such a Prince of Væringers. And the truth is, Sigurd intrinsically was a wise, able and prudent man; who, surviving both his brothers, reigned a good while alone in a solid and successful way. He shows features of an original, independent, thinking man; something of ruggedly strong, sincere and honest, with peculiarities that are amiable and even pathetic in the character and temperament of him; as certainly, the course of life he took was of his own choosing, and peculiar enough. He happens furthermore to be, what he least of all could have chosen or expected, the last of the Haarfagr Genealogy that had any success, or much deserved any, in this world. The last of the Haarfagrs, or as good as the last! So that, singular to say, it is in reality, for one thing only that Sigurd, after all his crusadings and wonderful adventures, is memorable to us here: the advent of an Irish Gentleman called 'Gylle Krist' (Gilchrist, Servant of Christ), who,—not over welcome, I should think, but (unconsciously) big with the above result,—appeared in Norway, while King Sigurd was supreme. Let us explain a little.

This Gylle Krist, the unconsciously fatal individual, who 'spoke Norse imperfectly,' declared himself to be the natural son of whilom Magnus Barefoot; born to him there while engaged in that unfortunate 'Conquest of Ireland.' "Here is my mother come with me," said Gilchrist, "who declares my real baptismal name to have been Harald, given me by that great King; and who will carry the red-hot ploughshares or do any reasonable ordeal in testimony of these facts. I am King Sigurd's veritable half-brother: what will King Sigurd think it fair to do with me?" Sigurd clearly seems to have believed the man to be speaking truth; and indeed nobody to have doubted but he was. Sigurd said, "Honorable sustenance shalt thou have from me here. But, under pain of extirpation, swear that, neither in my time, nor in that of my young son Magnus, wilt thou ever claim any share in this Government." Gylle swore; and punctually kept his promise during Sigurd's reign. But during Magnus's, he conspicuously broke it; and, in result,

through many reigns, and during three or four generations afterwards, produced unspeakable contentions, massacres, confusions in the country he had adopted. There are reckoned, from the time of Sigurd's death (A.D. 1130), about a hundred years of civil war: no king allowed to distinguish himself by a solid reign of well-doing, or by any continuing reign at all,—sometimes as many as four kings simultaneously fighting;—and in Norway, from sire to son, nothing but sanguinary anarchy, disaster and bewilderment; a Country sinking steadily as if towards absolute ruin. Of all which frightful misery and discord Irish Gylle, styled afterward King Harald Gylle, was, by ill destiny and otherwise, the visible origin: an illegitimate Irish Haarfagr, who proved to be his own destruction, and that of the Haarfagr kindred altogether!

Sigurd himself seems always to have rather favored Gylle, who was a cheerful, shrewd, patient, witty and effective fellow; and had at first much quizzing to endure, from the younger kind, on account of his Irish way of speaking Norse, and for other reasons. One evening, for example, while the drink was going round, Gylle mentioned that the Irish had a wonderful talent of swift running, and that there were among them people who could keep up with the swiftest horse. At which, especially from young Magnus, there were peals of laughter; and a declaration from the latter that Gylle and he would have it tried to-morrow morning. Gylle in vain urged that he had not himself professed to be so swift a runner as to keep up with the Prince's horses; but only that there were men in Ireland who could. Magnus was positive; and, early next morning, Gylle had to be on the ground; and the race, naturally under heavy bet, actually went off. Gylle started parallel to Magnus's stirrup; ran like a very roe, and was clearly ahead at the goal. "Unfair," said Magnus; "thou must have had hold of my stirrup-leather, and helped thyself along; we must try it again." Gylle ran behind the horse this second time; then at the end, sprang forward; and again was fairly ahead. "Thou must have held by the tail," said Magnus; "not by fair running was this

possible; we must try a third time!" Gylle started ahead of Magnus and his horse, this third time; kept ahead with increasing distance, Magnus galloping his very best; and reached the goal more palpably foremost than ever. So that Magnus had to pay his bet, and other damage and humiliation. And got from his father, who heard of it soon afterwards, scoffing rebuke as a silly fellow, who did not know the worth of men but only the clothes and rank of them, and well deserved what he had got from Gylle. All the time King Sigurd lived, Gylle seems to have had good recognition and protection from that famous man; and, indeed, to have gained favor all round, by his quiet social demeanor and the qualities he shewed.

CHAPTER XIII.

MAGNUS THE BLIND, HARALD GYLLE, AND MUTUAL EXTINCTION OF THE HAARFAGRS.

ON Sigurd the Crusader's death, Magnus naturally came to the throne; Gylle keeping silence and a cheerful face for the time. But it was not long till claim arose on Gylle's part, till war and fight arose between Magnus and him, till the skilful, popular, ever-active and shifty Gylle had entirely beaten Magnus; put out his eyes; mutilated the poor body of him in a horrid and unnameable manner, and shut him up in a convent as out of the game henceforth. There in his dark misery Magnus lived now as a monk; called 'Magnus the Blind' by those Norse populations; King Harald Gylle reigning victoriously in his stead. But this also was only for a time. Then arose avenging kinsfolk of Magnus, who had no Irish accent in their Norse, and were themselves eager enough to bear rule in their native country. By one of these, a terribly strong-handed, fighting, violent, and regardless fellow, who also was a Bastard of Magnus Barefoot's, and had been made a Priest, but liked it unbearably ill and had broken loose from it into the wildest courses at home and abroad; so that his current name got to be 'Slembi-diakn,' Slim or Ill Deacon, under which he is much noised of in Snorro and the Sagas; by this Slim-Deacon, Gylle was put an end to

(murdered by night, drunk in his sleep); and poor blind Magnus was brought out, and again set to act as King, or King's Cloak, in hopes Gylle's posterity would never rise to victory more. But Gylle's posterity did, to victory and also to defeat, and were the death of Magnus and of Slim-Deacon too, in a frightful way; and all got their own death by and by in a ditto. In brief, these two kindreds (reckoned to be authentic enough Haarfagar people, both kinds of them) proved now to have become a veritable crop of dragon's teeth; who mutually fought, plotted, struggled, as if it had been their life's business; never ended fighting, and seldom long intermitted it, till they had exterminated one another, and did at last all rest in death. One of these later Gylle temporary Kings I remember by the name of Harald Herdebred, Harald with the Broad Shoulders. The very last of them I think was Harald Mund (Harald with the Wry-Mouth), who gave rise to two Impostors, pretending to be Sons of his, a good while after the poor Wry-Mouth itself and all its troublesome belongings were quietly underground. What Norway suffered during that sad century may be imagined.

CHAPTER XIV.

SVERRIR AND DESCENDANTS, TO HAKON THE OLD.

THE end of it was, or rather the first abatement, and *beginning* of the end, That, when all this had gone on ever worsening for some forty years or so, one Sverrir (A.D. 1177), at the head of an armed mob of poor people called *Birkebeins*, came upon the scene. A strange enough figure in History, this Sverrir and his Birkebeins! At first a mere mockery and dismal laughing-stock to the enlightened Norway public. Nevertheless by unheard of fighting, hungering, exertion and endurance, Sverrir, after ten years of such a death-wrestle against men and things, got himself accepted as King; and by wonderful expenditure of ingenuity, common cunning, unctuous Parliamentary Eloquence or almost Popular Preaching, and (it must be owned) general human faculty and valor (or value) in the overclouded and distorted state, did victori-

ously continue such. And founded a New Dynasty in Norway, which ended only with Norway's separate existence, after near three hundred years.

This Sverrir called himself a Son of Harald Wry-Mouth; but was in reality the son of a poor Comb-maker in some little town of Norway; nothing heard of Sonship to Wry-Mouth till after good success otherwise. His Birkebeins (that is to say, *Birchlegs*; the poor rebellious wretches having taken to the woods; and been obliged, besides their intolerable scarcity of food, to thatch their bodies from the cold with whatever covering could be got, and their legs especially with birch bark; sad species of fleecy hosiery; whence their nickname),—his Birkebeins I guess always to have been a kind of Norse *Jacquerie*: desperate rising of thralls and indigent people, driven mad by their unendurable sufferings and famishings,—theirs the deepest stratum of misery, and the densest and heaviest, in this the general misery of Norway, which had lasted toward the third generation and looked as if it would last forever: whereupon they had risen proclaiming, in this furious dumb manner, *unintelligible except to Heaven*, that the same could not, nor would not be endured any longer! And, by their Sverrir, strange to say, they did attain a kind of permanent success; and, from being a dismal laughing stock in Norway, came to be important, and for a time all-important there. Their opposition nicknames, ‘*Baglers*’ (from *Bagall, baculus*, bishop’s staff; Bishop Nicholas being chief Leader), ‘*Gold-legs*,’ and the like obscure terms (for there was still a considerable course of counter-fighting ahead, and especially of counter-nicknaming), I take to have meant in Norse prefigurement seven centuries ago, ‘bloated Aristocracy,’ ‘tyrannous Bourgeoisie,’—till, in the next century, these rents were got closed again!—

King Sverrir, not himself bred to comb-making, had, in his fifth year, gone to an uncle, Bishop in the Faroe Islands; and got some considerable education from him, with a view to Priesthood on the part of Sverrir. But, not liking that career, Sverrir had fled and smuggled himself over to the Birkebeins, who, noticing the learned tongue, and

other miraculous qualities of the man, proposed to make him Captain of them; and even threatened to kill him if he would not accept,—which thus at the sword’s point, as Sverrir says, he was obliged to do. It was after this that he thought of becoming son of Wry-Mouth and other higher things.

His Birkebeins and he had certainly a talent of campaigning which has hardly ever been equalled. They fought like devils against cny odds of number; and before battle they have been known to march six days together without food, except, perhaps, the inner bark of trees, and in such clothing and shoeing as mere birch bark:—at one time, somewhere in the Dovrefjeld, there was serious counsel held among them whether they should not all, as one man, leap down into the frozen gulphs and precipices, or at once massacre one another wholly, and so finish. Of their conduct in bâttle, fiercer than that of *Baresarks*, where was there ever seen the parallel? In truth they are a dim strange object to one, in that black time; wondrously bringing light into it withal; and proved to be, under such unexpected circumstances, the beginning of better days!

Of Sverrir’s public speeches there still exist authentic specimens; wonderful indeed, and much characteristic of such a Sverrir. A comb-maker King, evidently meaning several good and solid things, and effecting them too, athwart such an element of Norwegian chaos-come-again. His descendants and successors were a comparatively respectable kin. The last and greatest of them I shall mention is Hakon VII., or Hakon the Old; whose fame is still lively among us, from the Battle of Largs at least.

CHAPTER XV.

HAKON THE OLD AT LARGS.

In the Norse annals our famous Battle of Largs makes small figure, or almost none at all among Hakon’s battles and feats. They do say indeed, these Norse annalists, that the King of Scotland, Alexander III. (who had such a fate among the crags about Kinghorn in time coming), was very anxious to purchase from King Hakon his sovereignty

of the Western Isles; but that Hakon pointedly refused; and at length, being again importuned and bothered on the business, decided on giving a refusal that could not be mistaken. Decided, namely, to go with a big expedition, and look thoroughly into that wing of his Dominions; where no doubt much has fallen awry since Magnus Barefoot's grand visit thither, and seems to be inviting the cupidity of bad neighbors! "All this we will put right again," thinks Hakon, "and gird it up into a safe and defensive posture." Hakon sailed accordingly, with a strong fleet; adjusting and rectifying among his Hebrides as he went along, and landing withal on the Scotch coast to plunder and punish as he thought fit. The Scots say he had claimed of them Arran, Bute and the Two Cumbraes ("given my ancestors by Donald Bain," said Hakon, to the amazement of the Scots) "as part of the Sudör" (Southern Isles):—so far from selling that fine kingdom!—and that it was after taking both Arran and Bute that he made his descent at Largs.

Of Largs there is no mention whatever in Norse books. But beyond any doubt, such is the other evidence, Hakon did land there; land and fight, not conquering, probably rather beaten; and very certainly 'retiring to his ships' as in either case he behoved to do! It is further certain he was dreadfully maltreated by the weather on those wild coasts; and altogether credible, as the Scotch records bear, that he was so at Largs very specially. The Norse Records or Sagas say merely, he lost many of his ships by the tempests, and many of his men by land fighting in various parts,—tacitly including Largs, no doubt, which was the last of these misfortunes to him. 'In the battle here he lost 15,000 men, say the Scots, we 5,000!' Divide these numbers by ten, and the excellently brief and lucid Scottish summary by Buchanan may be taken as the approximately true and exact.* Date of the battle is A.D. 1263.

To this day, on a little plain to the south of the village, now town, of Largs, in Ayrshire, there are seen stone cairns and monumental heaps, and, until within

a century ago, one huge, solitary, upright stone; still mutely testifying to a battle there—altogether clearly, to this battle of King Hakon's; who by the Norse records, too, was in these neighborhoods at that same date, and evidently in an aggressive, high kind of humor. For 'while his ships and army were doubling the Mull of Cantire, he had his own boat set on wheels and therein, splendidly enough, had himself drawn across the Promontory at a flatter part,' no doubt with horns sounding, banners waving. "All to the left of me is mine and Norway's," exclaimed Hakon in his triumphant boat progress, which such disasters soon followed.

Hakon gathered his wrecks together, and sorrowfully made for Orkney. It is possible enough, as our Guide Books now say, he may have gone by Iona, Mull and the narrow seas inside of Skye; and that the *Kyle Akin*, favorably known to sea-bathers in that region, may actually mean the *Kyle* (narrow strait) of Hakon, where Hakon may have dropped anchor, and rested for a little while in smooth water and beautiful environment, safe from equinoctial storms. But poor Hakon's heart was now broken. He went to Orkney; died there in the winter; never beholding Norway more.

He it was who got Iceland, which had been a Republic for four centuries, united to his kingdom of Norway: a long and intricate operation,—much presided over by our Snorro Sturleson, so often quoted here, who indeed lost his life (by assassination from his sons-in-law) and out of great wealth sank at once into poverty of zero,—one midnight in his own cellar, in the course of that bad business. Hakon was a great Politician in his time; and succeeded in many things before he lost Largs. Snorro's death by murder had happened about twenty years before Hakon's by broken heart. He is called Hakon the Old, though one finds his age was but fifty-nine, probably a longish life for a Norway King. Snorro's narrative ceases when Snorro himself was born; that is to say, at the threshold of King Sverrir; of whose exploits and doubtful birth it is guessed by some that Snorro willingly forbore to speak in the hearing of such a Hakon.

* Buchanan Hist., I. 130.

CHAPTER XVI.

EPILOGUE.

HAARFAGR's kindred lasted some three centuries in Norway; Sverrir's lasted into its third century there; how long after this, among the neighboring kingships, I did not enquire. For, by regal affinities, consanguinities, and unexpected chances and changes, the three Scandinavian kingdoms fell all peaceably together under Queen Margaret, of the Calmar Union (A.D. 1397); and Norway, incorporated now with Denmark, needed no more kings.

The History of these Haarfagr's has awakened in me many thoughts of Despotism and Democracy, arbitrary government by one, and self-government (which means no government, or anarchy) by all; of Dictatorship with many faults, and Universal Suffrage with little possibility of any virtue. For the contrast between Olaf Tryggveson and a Universal-Suffrage Parliament or an 'Imperial' Copper Captain has, in these nine centuries, grown to be very great. And the eternal Providence that guides all this, and produces alike these entities with their epochs, is not *its* course still through the great deep? Does not it still speak to us, if we have ears? Here, clothed in stormy enough passions and instincts, unconscious of any aim but their own satisfaction, is the blessed beginning of Human Order, Regulation, and real Government; there, clothed in a highly different, but again suitable garniture of passions, instincts, and equally unconscious as to real aim, is the accursed-looking ending (temporary ending) of Order, Regulation, and Government;—very dismal to the sane onlooker for the time being; not dismal to him otherwise, his hope, too, being steadfast! But here, at any rate, in this poor Norse theatre, one looks with interest on the first transformation, so mysterious and abstruse, of human Chaos into something of articulate Cosmos; witnesses the wild and strange birth-pangs of Human Society, and reflects that without something similar (little as men expect such now), no Cosmos of human society ever was got into existence, nor can ever again be.

The violences, fightings, crimes—ah yes, these seldom fail, and they are very

lamentable. But always, too, among those old populations, there was one saving element; the now want of which, especially the unlamented want, transcends all lamentation. Here is one of these strange, piercing, winged-words of Ruskin, which has in it a terrible truth for us in these epochs now come:

' My friends, the follies of modern Liberalism, many and great though they be, are practically summed in this denial or neglect of the quality and intrinsic value of things. Its rectangular beatitudes, and spherical benevolences,—theology of universal indulgence, and jurisprudence which will hang no rogues, mean, one and all of them, in the root, incapacity of discerning, or refusal to discern, worth and unworth in anything, and least of all in man; whereas Nature and Heaven command you, at your peril, to discern worth from unworth in everything, and most of all in man. Your main problem is that ancient and trite one, "Who is best man?" and the Fates forgive much,—forgive the wildest, fiercest, cruelest experiments,—if fairly made for the determination of that. Theft and bloodguiltiness are not pleasing in their sight; yet the favoring powers of the spiritual and material world will confirm to you your stolen goods, and their noblest voices applaud the lifting of your spear, and rehearse the sculpture of your shield, if only your robbing and slaying have been in fair arbitrament of that question, "Who is best man?" But if you refuse such enquiry, and maintain every man for his neighbor's match,—if you give vote to the simple and liberty to the vile, the powers of those spiritual and material worlds in due time present you inevitably with the same problem, soluble now only wrong side upwards; and your robbing and slaying must be done then to find out, "Who is *worst* man?" Which, in so wide an order of merit, is, indeed, not easy; but a complete Tammany Ring, and lowest circle in the Inferno of Worst, you are sure to find, and to be governed by.*'

All readers will admit that there was something naturally royal in these Haarfagr Kings. A wildly great kind of kindred; counts in it two Heroes of a high,

* *Fors Clavigera*, Letter XIV. pp. 8-10.

or almost highest, type: the first two Olafs, Tryggveson and the Saint. And the view of them, withal, as we chance to have it, I have often thought, how essentially Homeric it was:—indeed what is ‘Homer’ himself but the *Rhapsody* of five centuries of Greek Skalds and wandering Ballad-singers, done (*i.e.* ‘stitched together’) by somebody more musical than Snorro was? Olaf Tryggveson and Olaf Saint please me quite as well in their prosaic form; offering me the truth of them as if seen in their real lineaments by some marvellous opening (through the art of Snorro) across the black strata of the ages. Two high, almost among the highest sons of Nature, seen as they veritably were; fairly comparable or superior to god-like Achilles, goddess-wounding Diomedes, much more to the two Atreidai, Regulators of the Peoples.

I have also thought often what a Book might be made of Snorro, did there but arise a man furnished with due literary insight, and indefatigable diligence; who, faithfully acquainting himself with the topography, the monumental relics and illustrative actualities of Norway, carefully scanning the best testimonies as to place and time which that country can still give him, carefully the best collateral records and chronologies of other countries, and who, himself possessing the highest faculty of a Poet, could, abridging, arranging, elucidating, reduce Snorro to a polished Cosmic state, unweariedly purging away his much chaotic matter! A modern ‘highest kind of Poet,’ capable of unlimited slavish labor withal;—who, I fear, is not soon to be expected in this world, or likely to find his task in the *Heimskringla* if he did appear here.—*Fraser’s Magazine*.

THE UNIVERSALITY OF SUPERSTITIONS CONNECTED WITH SNEEZING.*

EVERYTHING bearing on the subject of the unity of origin of our race is of peculiar importance and interest at a time like this, when science seems to be inclined to attribute the points of identity which seem to connect all the races of men together to accident or to the natural and inevitable results of the same influences and necessities upon all men in all ages.

The superstition I have selected, the habit of saying “God bless you!” when a person sneezes, is so absurd that no one can pretend that nature could have

suggested it to all men at all times and in all countries, nor can it be assumed (even if such a thing were possible) that all nations, in Europe, Asia, Polynesia, and America, can have borrowed from one another a custom that has apparently so little to recommend it to the common apprehensions of men. Ridiculous as it may appear, we should remember that nothing which carries us back beyond the limits of history, and gives us a clue to the religious ideas and the social customs of prehistoric man, can be considered unimportant.

To use the words of Bunsen, “Above all we should never contemn nor overlook even the most seemingly trivial and unpromising object within the range of primitive monumental history.”

Homer carries back this superstition to Olympus and to the gods, who make the vaults of heaven ring by invoking Jupiter when one of their number indulges in the ominous act of sneezing. The Jews suppose that originally a sneeze was fatal, and that at the intercession of Jacob the penalty of death attached to it was abolished, and that henceforth it could be indulged in without proving mortal.

The recollection, however, of the primeval terrors of a sneeze still survive,

* This article contains the substance of a paper written in Halifax, Nova Scotia, in 1863 to amuse some friends, and printed for private circulation only. A dozen copies or so were sent to England, and the paper was forgotten by the writer. On returning to England after ten years’ absence, he was surprised to find that it had attracted a good deal of attention, and that it had been quoted from by Sir John Lubbock, Mr. Tyler, and others. At the request of his friends, it is now reproduced with additions, in the hope that it may prove amusing and of interest to the readers of TEMPLE BAR.

“Friend Morris, do not think yourself alone
Of all men happy. Shall not love to me,
As in the Latin song I learned at school,
Sneeze out a full ‘God bless you’ right and
left?”

TENNYSON’S *Edwin Morris*.

and the Jews still ejaculate " *Tobim Chaiim!*" (a long life to you!) when a friend indulges in a sneeze.

The Greeks, unable to account for the superstition, traced it to the first sign of life in the clay which Prometheus fashioned into human form. Aristotle has devoted one of his Problems to the question why the custom of invoking *Jupiter Soter* was indulged in as a safeguard against the dangers of a sneeze, and tells us that his countrymen regarded a sneeze as sacred. Pliny has included among his Problems, *Cur sternutantes salutantur*. Catullus mentions the custom. Sir Thomas Brown, in his 'Vulgar Errors,' gives numerous quotations from classical authors as to the universality among the Greeks and Romans of this singular superstition. Themistocles found in a sneeze to the right a presage of victory over Xerxes. A sneeze to the left was regarded as unlucky. Sir Thomas Brown gives a quaint version of a Greek epigram on a man who had such a long nose that he could not hear himself sneeze. This translation was evidently not written by Milton:—

" He sneezing calls not Jove, for why? He
hears
Himself not sneeze, the sound's so far
from's ears."

Tiberius, who, though a sceptic, was profoundly superstitious, rigidly practised and enforced the observance of this custom.

The very general belief that the custom took its rise in one of the symptoms of the Plague in Italy in the days of Gregory the Great is therefore effectually disposed of. To this day, in Ireland and in parts of Scotland, the custom prevails. My housekeeper, a Devonshire woman, tells me it is still observed by the peasantry in that county. During the past century it was considered a gross breach of propriety not to salute a person on his sneezing. A friend of mine has told me that his father, as a little boy, was presented to the Pope, and was promised on his next visit, two days subsequently, a medal blessed by his Holiness. He and his father were present when the cardinals were assembled together. He happened to sneeze, when, to his surprise and delight, their eminences

rose and bowed to him. The result was so agreeable that he extemporized several sneezes which were similarly honored. His father was so mortified at the practical joke that he refused to present his son again to the Pope, and the little fellow therefore paid dearly for his amusement, and lost the intended present from his Holiness. Not very long ago an Englishwoman, travelling in Italy, who had heard a married lady friend who sneezed saluted by those present, not understanding Italian, or the precise meaning of the phrase used, subsequently astounded a bishop who sneezed near her, by the courteous wish *Figlio maschio!* (May it be a boy!)

So universal is this superstition, that it may be questioned if there is any country in the world where traces of it cannot be found. Speke and Grant, among some of the savages of Equatorial Africa, could discover no traces of any religious ideas, except in the custom of uttering an Arabic ejaculation or prayer when a person sneezed.

Even among the isolated races of America the same superstition is to be met with. De Soto, the discoverer of Florida, noticed that when a Sachem sneezed the savages around him bowed down, and prayed to the Sun to save him. The same superstition extends also throughout the Polynesian and Melanesian Islands. In New Zealand the priest is guided by a sneeze in giving a name to an infant. He repeats name after name until the child sneezes, and the name then being pronounced is selected as that which Heaven has appointed for the young savage.

We find in the adventures of Mariner in the Tonga Islands, a group near the Fiji Islands, a second edition of what happened almost three thousand years ago to Xenophon and the "immortal ten thousand." Xenophon tells us in his 'Anabasis' that when the Greeks were about to commence their celebrated retreat after the death of Cyrus the Younger, and just as Xenophon was addressing them with these words, "We have many reasons to hope for *preservation*," a soldier unfortunately sneezed, upon which the whole army invoked Jupiter the *Preserver*; Xenophon, proceeding on, said, "Since at the mention of your preservation Jupiter has sent

this omen," &c.—an ingenious turn, by which he converted an evil into a good omen.

I ought here to mention that in all ages, and in Hindostan as well as in Greece, it has been always considered an unlucky omen for any one to sneeze at the commencement of an undertaking. The existence of this belief among the Hindoos is referred to by Lutfullah in his Memoirs, p. 62, "A sneeze in an opposite direction will prevent a man from going to any place, or commencing any undertaking."

Mariner tells us that when Finow, a Chief in the Tonga Islands, was about to proceed on a warlike expedition, some one sneezed. Instead of showing the ready wit of Xenophon, the Chief, regarding it as an ill omen from the gods, defied them to do their worst.

Mariner himself almost lost his life from sneezing when Finow and his followers were about to commence a religious ceremony. "Immediately every one present threw down his club, for who would proceed on so important an expedition after so dire an omen! Finow's eyes flashed with the fire of rage. Directing them full on Mr. Mariner, he cursed him with the most bitter curse, 'Strike your God!' In a note it is stated, "To sneeze at the moment of setting out on an expedition augurs, in their opinion, the most fatal result."

The Thugs had a peculiar reverence for a sneeze. This detestable secret society is a warning to us as to the excesses to which even among educated persons perverted religious zeal, when blinded by superstition, may carry men when they bid good-bye to reason and to their judgment, and yield an implicit obedience to blind faith. They were, in one aspect, the most religious people the world has ever seen. The bloody goddess whom they served guided them hourly by signs, omens, and miracles, which they obeyed implicitly, even at the cost of their lives. At her bidding they consecrated their whole existence to a crusade against society and against human life. They believed in infallibility, and infallibility spoke from Heaven to them in signs and omens. One of these was a sneeze. Should the unhappy victim on awaking with the fatal cord around his neck happen to sneeze, his

life was safe. The victim was regarded as sacred. The goddess had spoken.

The North American Indians, the natives of the Indian Archipelago, as well as the Polynesians, believe not only in the existence of some supreme and beneficent power, but also in the existence of inferior spiritual beings, or little gods, strongly resembling the fairies of Northern Europe. They also believe that all nature had a soul as well as man, and that the soul is peculiarly liable to the agency of spiritual beings. Thus the "Medicine Man" of the North American races is always a necromancer. His patient is not affected by natural, but by supernatural causes, only to be removed by counter-charms. The "Medicine Man" works himself into a singular state, sometimes ending in convulsions; he then becomes inspired, and proceeds, with certain ceremonies, *to bring back the patient's soul*, or to expel the evil spirit.

The same belief and practice are observable among the savages of Borneo and of Central Africa. Among these simple and primitive races there is a belief that man has a double form, the one corporeal and the other spiritual, and that even in life the spirit or soul and the body are not necessarily united, but that sickness or evil spirits may deprive the body of its spiritual companion. The belief among the Jews as to idiots or insane persons being "possessed of evil spirits," may be connected with these ideas. It is remarkable that sickness and death are, in the Arctic regions, in Australia, and in Central Africa, attributed by the natives to the influence of spirits who have been employed by enemies to injure them. Thus among the Arctic Loucheux, whenever a person dies, his relatives kill some one belonging to a neighboring tribe. In Australia exactly the same thing occurs, the natives fancying that some one has by supernatural means stolen the "kidney fat" of the deceased. They accordingly knock on the head a native of another tribe, and take from him his kidney fat while he is still alive.*

* See Sir John Richardson's 'Arctic Expedition in search of Sir John Franklin,' chap. 12. See also 'Report on the Aborigines, by the Committee of the Legislative Council of Victoria—Session 1858-9.'

The belief in Scotland and in Equatorial Africa is found to be almost precisely identical respecting there being *ghosts even of the living*, who are exceedingly troublesome and pugnacious.

In Polynesia, not only men, but also inanimate objects, are supposed to be liable to lose their spirits, or soul.

The little gods sometimes steal the souls or shadows of those articles to which they take a fancy. (See 'Westminster Review' for April, 1862.) There is a Polynesian legend, "in which they (the little gods) carry off the shadows of Ter Kanawa's jewels, leaving the costly substances behind them, the souls of the fairies being quite contented with the shadows alone."

It is stated that there is an instance among the Irish emigrants in the City of New York of a child having been burned to death by its parents under the impression that it was only a "changeling," or a "fairy child."

Colonel Tydd, late of the 76th Regiment, tells me that when he was stationed in Ireland, many years ago, a father and mother of the name of Mahoney were tried for murder for having boiled their child under a similar impression. The poor little fellow was a delicate child, whom nothing could apparently restore to health. A fairy mother had evidently stolen their healthy infant, and had substituted her own starveling in its place. To force her to restore their property to them, they put a pot of water on the fire, and when it was boiling they immersed the unfortunate child, which was some four or five years of age, in the scalding water. In vain his screams were heard as he cried out, "I'm Johnny Mahoney! I'm the rale Johnny Mahoney! I'm not the fairy's child!" But the fairy mother did not listen to the cries of her offspring, nor come to its rescue by bringing back the real Johnny Mahoney, and the parents were therefore arrested for murder, and were tried for the crime they had unconsciously committed.

But among the Celtic race the fairies did not confine their depredations to the dairy or the cradle. Even grown-up persons were liable to be spirited away by them. It is evident that they have inherited from primeval ages a belief that not only disease, but also death it-

self is the effect of supernatural agency. With civilised man the immortality of the soul may sometimes be a stumbling-block. To primeval man the mortality of the body was an incredible fact. The mystery of death was too profound to be believed in.

Indignatur se mortalem esse creatum.

Hence the perishing corpse was only a worthless substitute for the living, who had been carried away by "the good people." Wylde, in his interesting little work on Irish superstitions (p. 121), says: "The fairies, or 'good people,' are looked upon as the great agents and prime movers in the death of infants and young people; and even yet in the islands of the extreme West, except from sheer old age, or some very ostensible cause, no one is believed to die all out." He goes on to say that even decomposition will not convince them that the person is dead. "Sure he has got a blast, and is with the faeries!" So rooted is this belief, that food of different sorts is brought for weeks by the friends of the deceased to the rath or fort where he is supposed to be living with the fairies.

Hence we find the belief still lingering that King Arthur is not dead, but is sleeping on the Eildon Hills, from which he will yet return—a superstition still lingering respecting him in Europe. In Southern Europe, Barbarossa only sleeps, and will yet awake, and be once more the terror of the world. The tale of the 'Seven Sleepers,' and similar other superstitions, are traceable to the same source.

This being the case, we can now form some conjecture as to the peculiar dread attached to sneezing. There can be no doubt that the fairies were originally the same as the ancestral spirits whom the Kaffirs believe enter into a man when he yawns or sneezes. Among the Celtic race it seems that their influence did not extend only to inspiring the person affected. It did more; it rendered him liable to be converted into a fairy man, or into a senseless, perishing corpse. Callaway, in his interesting work on the 'Religious System of the Amazulu' (Part I. p. 64), states that as a Kaffir "believes that at the time of sneezing the spirit of his house is in some special proximity to him, he believes it to be a

time peculiarly favorable to prayer, and that whatever he asks for will be given. Hence he may say, *Bakwiti in komo!* (Spirits of our people, give me cattle!) or, *Bakwiti abantwana!* (Spirits of our people, give me children!)

Yawning or sneezing is a sign that Itongo, the ancestral spirits, are about to enter and inspire the person affected. "He shows that he is about to be a diviner by yawning again and again. And men say: 'No; truly it seems as if this man were about to be possessed of a spirit!' It seems, however, that a convenient 'aid to devotion' is employed.

"This is also apparent from his being very fond of snuff; not allowing any long time to pass without taking some. And people begin to see that he has had what is good for him."*

It is evident that the negro races of Africa regard the act of sneezing with even greater dread than the Kaffirs, and, like them, believe it to indicate the influence of "ancestral spirits." They, like the Kaffirs and other races in Ceylon, India, and other portions of the globe, believe that the spirits of the dead assume the form of snakes, the undoubted source of "serpent-worship." The abode of the dead is "the snake world" of the Cingalese. The Priestess of Apollo at Delphi was simply an "*obi-woman*." She was inspired by a serpent called *Ob*. Now *Ob* means in Yoruba an *ancestor*. The temples of Central Africa are called *Oboni* (houses of the dead). An *Obi-man* is therefore literally a *necromancer* (one who prophesies by aid of the dead).

So deeply-rooted is the superstition on the subject of sneezing in negro races, that Christianity has not been able to weaken it among their descendants in the United States. A lady, who had much to do with schools for blacks, surprised at the fact that she had never heard a black child sneeze, or at least give a thorough sneeze, came to the conclusion that the blacks are physically incapable of sneezing. The readers of this article can now supply a very different solution. The negroes evidently train their children from the cradle never to indulge in the ominous act of

sneezing, and probably teach them never to allude to a subject which is connected with that mysterious influence of the dreaded *Obi*, which haunts the African from his infancy to the grave. I have frequently tried to question the blacks as to the *Obi*, but the very word had a terror for them, and was sufficient to reduce a laughing, chattering group to silence.

The Scandinavian and Celtic races attributed, however, even more serious influences to the agency of the spirits. A sneeze or yawn was enough to convert a person into a fairy man. Thus the Icelandic legend quoted by Callaway makes the female troll, who had assumed the form of a beautiful queen, say,

"When I yawn, I am a neat and tiny maiden; when I yawn a half yawn, then I am as a half troll; when I yawn a whole yawn, then I am as a whole troll."

This being, then, so wide-spread a superstition, regarding the influence of fairies or subordinate deities, can we in any way obtain from it a clue to the habit of saying "God bless you!" to a person who sneezes? Does the invocation of the Deity protect the person who sneezes from the influence of the fairies?

This I believe can be conclusively established by the traditions and superstitions of the Celtic race.

I need hardly refer to the mysterious protection which the name of the Deity is supposed to afford against the agency of evil spirits. There is, however, a well-known story, which will illustrate the belief of the Celtic race as to the effect which the habit of saying "God bless you!" has upon the fairies.

Pat once went to sleep at a place frequented by the fairies; and in his sleep was carried down to their palace. He was about to drink some of their ale, which would have for ever prevented his return, when fortunately one of the fairies happened to sneeze, upon which Pat, in a courteous mood, exclaimed very innocently, "God bless your honor!" Wonderful was the effect of thus invoking the name of the Deity in their presence. With terrible imprecations, and in great dismay, the fairies fled away, and Pat once more woke upon earth.

I could cite many such stories to prove the fact, that the Celtic race be-

* Callaway's 'Divination among the Zulus,' p. 262.

lieve that, from Satan down to the mildest form of evil spirits, the name of the Deity has the effect of rendering them, for the time, powerless to do harm.

Can we then find any clue to the question why we should wish to keep off fairies and evil spirits when a man sneezes? I have discovered the explanation in the superstitions of the Highlanders. The following tradition as to a Highland Chief's family in Perthshire, related to me by the Rev. Dr. Robertson, a native of that county, shows that when a person sneezes, he is supposed to be liable to be stolen by the fairies, unless protected by some one invoking the name of the Deity.

Several centuries ago, an ancestor of the present Chief was engaged to be married to a young lady in France, who, he learned, had grown fickle, and was about to be married to a rival. In great distress, the Chief applied for aid to the King of the Fairies, who offered him a fairy horse, mounted on which he accompanied his Majesty to France. When they arrived at the house of the bride, the wedding was just commencing. The King of the Fairies, unseen by the guests, entered, and seeing the bride for a moment withdraw into a room alone, he followed her. Just then she sneezed—there was no one present

to say "God bless you!" and in a moment the fairy had stolen the bride, whom he carried in triumph over to the Highlands, where she married the chieftain, and became the happy mother of a long line of illustrious Macs. It is needless to add that his rival, the unhappy Frenchman, unconsciously married "*a fairy woman*."

American ethnologists point to the early monuments of Egypt for one of their strongest proofs in support of their views, as we there find the negro type represented as precisely similar to what it now is; and they endeavor to convince the world that all the varieties of man sprang from different "centres of creation," that the American man, Australian man, Arctic man, African man, all are indigenous to the countries which they now inhabit.

It would certainly be an amusing, if not a most profitable task to refute the speculations of these theorists by arguments derived from sneezing.

Before they can expect us to accept their conclusions, let them answer the question, How did all men, in all countries, arrive at the same singular conclusion as to the mysterious dangers attendant on a sneeze, if this belief was not inherited from a common source?—*Temple Bar.*

THE FOUNTAIN.

FROM THE FRENCH OF THEOPHILE GAUTIER.

A FOUNTAIN bubbles forth, hard by the lake,
Between two stones up-sparkling ever,
And merrily their course the waters take,
As if to launch some famous river.

Softly she murmurs, "What delight is mine,
It was so cold and dark below ;
But now my banks green in the sunlight shine,
Bright skies upon my mirror glow ;

"The blue forget-me-nots through tender sighs,
'Remember us,' keep ever saying;
On a strong wing the gem-like dragon-flies
Ruffle me, as they sweep round playing.

"The bird drinks at my cup ; and now who knows
After this rush through grass and flowers,
I may become a giant stream, that flows
Past rocks and valleys, woods and towers.

" My foam may lie, a lace-like fringe, upon
 Bridges of stone, and granite quays,
 And bear the smoking steam-ship on, and on,
 To earth-embracing seas."

Thus the young rivulet prattled as it went,
 With countless hopes and fancies fraught;
 Like boiling water in a vessel pent,
 Throbbed through its bed, the imprisoned thought.

But close upon the cradle frowns the tomb ;
 A babe the future Titan dies,
 For in the near lake's gulph of azure gloom
 The scarce-born fountain buried lies.—*Cornhill Magazine.*

SIR CHARLES LYELL.

THE death of Sir Charles Lyell ends a stage in the history of geology in England. He was the last of the veteran geologists the labors of whose lives kept England famous in spite of the dearth of eminent successors in the younger generation, and one cannot but feel that his departure severs the tie that connected us with the infancy of geology. These men found geology uncertain as to the nature and scope of its investigations, feeble and hesitating in asserting its claims to attention, wild in its notions of the actual phenomena of the earth's crust, and still wilder in its notions of their possible causes, and submitting to be dictated to as to both by the narrow theological views of the time. They have left it one of the soberest and least flighty of the many branches of natural science, taking its rank unquestioned among those which it is important for all to study; and though it never has lost, and probably never will lose, the charm which is given to it by the vastness of the scale upon which the operations of which it speaks have been carried on, and the dim mystery of the countless ages through which we have to look back in reading its records, yet such is the mass of facts it has accumulated as compared with the amount of theory that can possibly be framed upon them, that it is rapidly getting to be regarded as consisting mainly of observations of minute details, to be enjoyed only by specialists, and at which a theologian would as little think of cavilling as he would think of cavilling at the daily meteorological observations at Greenwich. The jealousy with which its progress was

watched has become a thing of the past, save so far as its teachings bear upon the controversy on evolution; and a clergyman who should treat his congregation to the invectives once so common against those who would weaken the authority of Scripture by throwing doubt on the literal descriptiveness of the Mosaic account of the Creation would trouble the minds of none but his ecclesiastical superiors. Of all the men who have aided in effecting this revolution, by far the highest place must be assigned to Sir Charles Lyell. We would not for a moment disparage the labors of such men as Murchison, Phillips, and Sedgwick; but all these, though vying with him perhaps in their actual knowledge of the subject, and the extent and value of their original researches, stand far below him in that grasp of it as a whole, and that power of generalization by which he made his knowledge fruitful. Under his hands the science took shape, its phenomena were shown to be parts of a consistent whole, and the vast accumulations of facts which threatened to encumber rather than to aid those who sought to reach from facts to causes, fell into their proper places, and ceased to be subjects of special explanations, because they needed none. He found the subject a heap of building-stone; he left it a building; and such was his freedom from bias and his capacity for weighing evidence, that the results of his labors are in but little danger of being superseded. Every day we learn something new which bears upon his conclusions, and they must necessarily be greatly modified by advancing knowledge; but, so far as its main

features are concerned, his system is too firmly based upon sound reasoning and trustworthy observation to be shaken.

The tendency of Sir Charles Lyell's work was strikingly consonant with the genius of the age in which he lived. Marvelously as our acquaintance with the facts of science has advanced, still increase of knowledge has been less characteristic of the age than unification of knowledge. Instead of enlarging our domain, we have brought its scattered provinces under a single rule. Classes of phenomena previously held to be unconnected with each other, and studied separately, have been shown to result from the action of common causes, and to obey the same fundamental laws. In physics, in physiology, in language, and in history this process has been going on; and what Grove and Joule have done for physics by the discovery of the correlation of forces, what Darwin and Spencer are doing for physiology by the theory of evolution, what Max Müller and the German philologists are doing for language, that Lyell did for geology. It is true that in his case the unification was not so striking as it sometimes has been. It was not in geology as it was in celestial mechanics, where it was reserved for one man to bring into simplicity and harmony all the maze of motions by discovering at one stroke both the secret of the mechanism and its laws. The forces that shaped the crust of the earth have stamped on it resemblances to the effects of the actions which on a small scale are continually going on around us, far too indelible for any one to mistake them; and hence from the first moment that men's minds ceased to be satisfied by the theory of an arbitrary and causeless creation of the earth's crust in the state in which it now is, it was admitted that, either wholly or partially, the present surface of our earth owed its structure to the shaping influences of heat, water, and wind. But to render these capable of accounting for geological changes, it was thought necessary to assume that in past ages they were in immeasurably intenser activity than at the present time; and it is not hard to see that, with this hypothesis, and the assumption at will that any or all of such agencies were in operation in a suitable manner, it would not be difficult to explain any phenomenon whatever. Some would even go so far as to assume

that a whole valley could be hollowed out at one sweep by a wave; and not content even with this liberty, they did not hesitate to get themselves out of any position of special difficulty by the hypothesis of a temporary suspension or reversion of the laws of nature. To a scientific mind such a pretended explanation is no solution of the difficulty, yet for a time this was all that geology had to offer, and with it geologists had to content themselves as best they could. If any school repudiated so chaotic an hypothesis, it was only to take up some small portion of it, and resolutely to shut its eyes to whatever truth the remainder might contain, secure from refutation through the impossibility of testing the truth of a theory upon a subject where no two people agreed as to what was possible and what was impossible.

It was in the reaction from this state of things, when, sick at heart of the endless and fruitless controversies which arose from the neglect of the maxim that one should not attempt to explain phenomena till one knows what it is that has to be explained, geologists began to confine themselves strictly to observation and to eschew all theorizing, that Lyell commenced his work. He clearly saw that, if it was to be allowed to geologists to introduce and use any natural forces, intensified at will, to explain geological phenomena, then there could be no solution of the problem; it was necessarily indeterminate. Nor would such a solution have been worthy of the name. Such forces obey known laws, and otherwise than according to these laws they cannot operate, nor can their intensity be different from that which those laws prescribe. The right method then must be to observe their action as we see it around us, and glean their laws from this, to examine what change, either in mode or intensity of action, must be assumed if we would make them account for the phenomena of the past.

Considered merely as leading to the sensible practice of studying closely the agents themselves before proceeding to use them to explain phenomena, this would have been a healthy reaction; but it proved to be much more when Lyell felt himself justified in coming to the conclusion that these arbitrary hypotheses as to the increased intensity of terrestrial forces in geologic ages were wholly unnecessary,

and that it sufficed to suppose that the present forces had been in continuous action through very long periods of time. In fact, the mystery was entirely of our own creation. We had set to work to discover agencies that would in a short space of time produce effects which in reality were nothing but the accumulated effects of the long-continued action of forces of the most familiar type. If this idea were the true one, it is obvious that the problem of geology was vastly simpler than had been supposed; and, what would be of far more importance, there would be a possibility of substituting certain knowledge for what must otherwise have always remained conjecture. Up to that time people had been in the position of a jury trying to decide as to the doers of a deed in a land where the *Arabian Nights* was a veracious history, or esteemed such; but this would restore them to the work-a-day world, with its definite sequences of cause and effect. But how much time would the theory require us to grant it for the formation of the earth's crust? On the lowest computation the length of time was so prodigious that it seemed fabulous, and the theory endured great opposition upon this ground, till it began to strike people that they had not the slightest reason for thinking that the earth had not existed a hundred times as long as Sir C. Lyell would represent. Thenceforward the theory prospered, and though many excellent geologists, like Sir Roderick Murchison, held that Sir C. Lyell underrated the violence of the igneous forces at work in very early geological periods, yet this did not affect its ultimate reception. The catastrophic hypothesis had received its deathblow, and though it might subsequently be found necessary to admit the possibility of very violent disturbances at certain epochs of the world's history, yet it became clear that these must no longer be considered to have been such as would be utterly without parallel in more recent times, as had been previously supposed. And the beneficial effect of the change upon geological theories cannot be overrated. The world of past ages was no longer a mysterious land where anything might be possible; its constitution and phenomena were those of our own world, with definite and ascertainable modifications during various periods due to ascertainable causes. No arbitrary hy-

pothesis could any longer be allowed to account for these modifications; if we could not explain them by the action of known natural laws, then we must wait patiently till we succeeded in so doing, and in the meanwhile the problem must remain confessedly unsolved. Geology was, in fact, made scientific in the proper signification of the term. And all this was cheaply purchased at the price of having to reconcile the mind to the idea of the earth having existed in the past during almost countless ages. This would offer to us no difficulty were it not that we are, as Sir Charles Lyell himself said in his Address to the British Association in 1864, so accustomed to regard as important small periods of time in our strict chronology of current or recent events. We are like the poor man who has become rich, whose small donations show how "hard it is to get the chill of poverty out of his bones."

Thus we see Sir Charles Lyell driving away from the domain of geologic science the fetish of discontinuity and catastrophic change, and representing the whole as the product of one continuous process of gradual change. It is in geology as in physics—the world of to-day is the effect of the world of yesterday, and the cause of the world of to-morrow. Still in the geologic story one continually occurring instance of change remained which Lyell's theory failed to account for. The record of the rocks spoke to no fact more clearly than that of the constant appearance of new species of plants and animals and the disappearance of old species. For the latter fact no strange or novel theory was needed; but it was different with the former. No known existing phenomenon offered a parallel to it; but one theory professed to explain it, and this one Sir Charles Lyell found himself compelled to reject, though not till after it had been most carefully examined by him, as is shown by his excellent *résumé* of it, and of the arguments for and against it. This was to be expected, for the now universally rejected Lamarckian theory, with its remarkable half-truths, could not satisfy so clear-sighted and exacting a critic. Thus, up to the ninth edition of his *Principles of Geology*, stood his theory of the formation of the earth's surface and of the plants and animals upon it—through countless ages a continuous development

of the surface, together with a gradual extinction of the older species of plants and animals and the appearance of new species, created under unknown circumstances, to take their places, but always resembling more or less closely some of the animals or plants of the period in which they appeared; the simpler organisms first appearing at an earlier time than the more complex ones, and man appearing last of all. But in the long interval that elapsed between the publication of the ninth and tenth editions of the *Principles of Geology*, Darwin's *Origin of Species* was published. Just as Lyell had accounted for the present condition of the earth's crust by means of a process of gradual development, so Mr. Darwin proposed to account for the whole of the present animal and vegetable kingdom. His theory would require that life should have existed upon the earth for countless past ages, and that each new species should more or less closely resemble some that existed at the time at which it appeared, and that the simpler animals and plants should first appear at an earlier epoch than those that were more complex. It was not to be wondered at that Sir C. Lyell should undertake a thorough investigation of a theory that suited his requirements so admirably, independently of his friendship for the author; and we shall not be far wrong in believing that at the hands of none did it undergo a more severe and searching trial before it was finally accepted, unless perhaps at the hands of its author himself. Be that as it may, Sir C. Lyell, though then upwards of sixty years of age, an age at which men are usually loth to change the opinions of a lifetime, gave his full adhesion to the new doctrine; and, first in the work on the *Antiquity of Man*, which appeared in 1863, and subsequently in the tenth edition of his *Principles of Geology*, he incorporated it with his system, elaborated, and defended it. To few of its defenders does it owe so much as to him; for, just as it is only upon the hypothesis of vast geologic ages that it is tenable, so it is from the facts of geology that it gets its chief support, and it is there too that it meets with its most formidable difficulties. The uncaused appearance of new species, and the general progression of type which is observable throughout the series of fossil and existing organisms, and the certainty that great modifications must have taken place in

species enduring through the vast spaces of time represented by geological periods under the ever-varying influences to which they would be exposed, go far to justify the theory that species do owe their origin to gradual development; while, on the other hand, the strange absence of many of the most important intermediate forms constitutes the most formidable argument against it. Sir Charles Lyell most skilfully met this last and most dangerous objection by his admirable teaching respecting the imperfection of the geologic record; and he no less skilfully used his vast acquaintance with the science to bring out in their full force the arguments which geology supplies in its favor, and to solve by means of it the many difficulties that palaeontology presents. Some of his old companions in research declined to follow him in the step he took, and remained to the end of their days firm opponents of the Darwinian theory; but Sir Charles Lyell so completely adopted it and made it his own, that it is hard for one who reads the later editions of his works to figure to himself how the hypothesis of special creations could ever have formed part of them. Thus his system represents the world past and present as the result of a continuous process exactly similar to what is going on now. And whatever may be thought of the conclusions of the arguments by which he supports some parts of his theories, his works must ever remain a monument of his genius and one of the most valuable productions of our age. The gift he gave to the world was not one of those lucky discoveries to the fortunate makers of which the world in its gratitude awards fame commensurate to the striking nature of the discovery rather than to the merit of the discoverer, and where the value of the reward bears a necessary proportion to the deserts of the discoverer about as much as the value of the diamond does to those of the fortunate man who finds it. With painstaking labor he mastered the results of the investigations of others and added largely to them from his own, and by steady and continuous thought he elaborated his system. There was nothing of the happy guess about it, as there seldom is about great discoveries. He patiently worked it out, and, like the rocks which he loved so well, its permanence will be the fitting reward of its slow growth.—*Saturday Review.*

JONATHAN.

BY C. C. FRASER-TYTLER, AUTHOR OF "MISTRESS JUDITH," ETC.

CHAPTER VI.

MR. BYLES'S WASHING DAY.

IT was a very humdrum life in Shelbourne, certainly, in spite of its beauty. But then the very seasons to some people are humdrum, and life must to them be monotonous anywhere.

The simple village folk are wiser, however. Without knowing it, they have attained to the true philosophy of life and of the Bible. To whatsoever state they are called they are, for the most part, therewith content. Sometimes they are too content, so long have they been schooled in the school of adversity. We wish we could raise them to a discontent with some of the unnecessary and degrading hardships they suffer. When a man comes to lie down peacefully eleven in a room, it speaks of something less admirable than resignation.

And after all, monotony, like happiness, is relative. May Day, Guy Fawkes' Day, the giving out of the Coal-club were as exciting events in Shelbourne as Ascot or the opening of Parliament elsewhere.

Mr. May, Mrs. Myse, Mr. Falk, Mr. Byles were great magnates, whose movements must always afford food for conversation. And Mr. Byles's health was at this time in that state of uncertainty which keeps the public mind in an attitude of pleasing suspense.

"He can't live not long, poor dear." "He's very near his account, he is." "I count he won't see Michaelmas." Such were the conjectures that had been made over the poor schoolmaster's head for many years. But hitherto nothing had happened. Village life, like the seasons, had slipped monotonously by.

But the monotony of the seasons is the monotony of true poetry; and village hearts, as well as others, beat, though unconsciously, to the beautiful cadence.

Jael thought June very beautiful when May had slipped by, and she saw the roses in Mr. Falk's garden peeping over the hedge, sunning themselves on the wall, rambling over the pillars at the Place; and, with the simple maidenly faces of the dog-

rose kind, looking even out of the high hedges of the lane leading to her quaint little home.

She thought July beautiful, too, when the trees bent under the weight of foliage, and the sky was so cloudlessly blue, and Jonathan's garden on a small scale, and Aaron Falk's on a large scale, blazed with summer flowers at the height of their beauty. Jonathan's garden was always a daughter of Mr. Falk's garden; for all the flowers that were to spare he made over to Jonathan; and the sweet little grey mother, Mrs. Cleare, looked out at them and felt happy. It had been a great blessing to her getting her son home; yet she often cried thinking of it, and of all he had given up for the sake of his father and her.

It was as beautiful a day as ever Jael had seen, one early August morning, when she gave her father his breakfast, and was off betimes to Mr. Byles's to wash.

Mr. Byles hated women; but he needed clean linen, like other people, and so washed his linen must be. But Mr. Byles had an expedient for getting rid of washing and women as fast as possible. He got the two handiest, hardest-working women in the parish, and gave them two days at it every fortnight. These two women were Jael Thorne and Andrew's mother, Martha Male.

So it was to meet her colleague that Jael went forth this fine August morning. And if ever Mr. Byles had made a good hit in his life, he did it when he chose his washer-women.

Out with the soap, up with the sleeves; out with the wash-trays, or with the great kettle—it was all in train in a moment. Then they planted themselves opposite each other. Jael, short, wiry, and brown, the old battered brown hat upon her head with its faded pink ribbon, the short full brown skirt on her ample waist, and the great faded apron over it; a pair of wiry brown hands and arms were in the soap-suds, and Mr. Byles's shirts were bobbing up and down, swelling out in a balloon in the steam, and being kneaded, beaten, suppressed, continually.

Then came the second pair of arms, but not brown and small—large, plump, white, and strong; the spotless sleeves of the spotless print gown turned up and pinned at the shoulders; a neat handkerchief round her ample throat, a hat like Jael's, but black, neat, in thoroughly good repair, trimmed with a neat purple ribbon. Everything exquisitely clean and trim; such was Martha Male, Andrew's mother. The story of the two women was written on their persons if not in their faces; but I think it was there as well. Jael, the fallen, ill-used girl of long ago, grown up to the fight of life and for daily bread without any one to depend on, though two depended on her; without any one to look clean and smart for, without any respected husband's name to fall back upon, to be proud of, and without the means of making herself more than cleanly ragged, if she wished it. Martha Male, the healthy, comfortable matron, with a husband comfortably in work, a steady hard-working son, and two married daughters—surely the difference was written in her plump, kind face, as she too fell to pummelling Mr. Byles's linen.

Swish, swish—bang, bang—more soap, more suds, more water—then the crying of the squeezed linen, as Mrs. Male's powerful hands wrung it, and the little trickles of water fell on the froth of suds and made holes in it, like the rain on snow in thaw.

"Proper dirty *this* is," said Jael, holding up a duster and looking at it fiercely from a professional point of view.

"Mostly is, is dusters," said Mrs. Male, laconically.

"It 'ud be bad days for such as me if folks didn't make a muck o' things o' times," said Jael, having at the duster again hotly.

The great kettle again; more hot water and clouds of steam. Then a foot, slow and shuffling, was heard in the inner room.

"Mr. Byles—that's he," said Mrs. Male.

There being no one else in the house, this was too self-evident a proposition to require any reply. Sundry coughings and dismal wheezings followed, quite confirming the identity of the person in question.

"We won't have *this* job long, I take it," said Jael, shaking her head over a

refractory shirt that refused to take the wet all over, and started up obstreperously into air-balloons.

Martha Male laid down the piece of soap she held, on the table, and, forgetting herself so far as to wipe her hands on her clean Hessian apron, she stared at Jael with an expression of awe and terror.

"Whatever in the name o' goodness is it?" asked Jael.

Martha Male pointed with her plump forefinger at the wet piece of soap while she kept the other hand rolled in her apron.

"Jael Thorne," she said, solemnly, "if something doesn't happen what's bad and unlucky, I'm a worse woman than I thought. That's three times as that very particular piece of soap 's slipped through my hands this blessed mornin'. And if nothin' doesn't come o' that I'm——"

Mr. Byles coughed in the next room, and Mrs. Male, stopping short, wagged her head knowingly at Jael, as much as to say, "I told you!"

"That means you'll be sent for," said her colleague, who was matter-of-fact, very. "And if it's Byles as anythink's to come to, you won't be sent for, by means there ain't nobody to send, nor yet no occashin for sendin'. Because, if I sees right, as I take it I do, you're here large as life, and all ready."

"It's all very well for you to be so saucy," said Mrs. Male, shaking her head, and looking hurt and dignified; "but soap never slipped with *me*, as somethink didn't come of it. I wouldn't give half-a-sovereign in shillin's and sixpences for Mr. Byles's life, not arter this!"

"Please yourself," said Jael. "No one won't ask you, that's sartin. If some folks could change with some other folks, it 'ud be a deal better for me."

This favorite conclusion of Jael's had such a roll of rhetoric about it, it always silenced Martha Male.

CHAPTER VII.

AN EVENT AT LAST.

MARTHA MALE and Jael were sitting down to "lunch" at eleven o'clock, in Mr. Byles's kitchen, with boiled hands and

large appetites, when a loud rap was heard at the door.

"Whatever in the name o' goodness—" began Jael.

Martha Male, turning a little white, still had presence of mind to wag her head again, as much as to say "*I told you!*"

Poor woman! in another moment it was more than a superstitious fear that paled her cheeks. The sick heart-faintness of evil tidings had come to her, and smitten in an instant by the mysterious power that, laying its hand upon the soul unnerves the body, she was leaning white and trembling upon Jael's shoulder.

"O Jael, Jael, what *shall* I do!" she moaned, while about the door a group of women had gathered, and the news went to and fro like wild-fire that Andrew had "got a mischief."

"Poor dear!" said Jael, "take this beer 'cause you've not tasted nothink, and then come and see arter him."

She roused herself at the thought of being of use to her boy, and followed Jael with trembling, hurried steps out of the house.

"Poor dear!" said the women as she passed them, one or two wiping their eyes, some holding their babies, and staring at her, but all feeling sorry for her in their own way.

"He's in Jonathan Cleare's house," said one woman to Jael. "They've took him there."

"Oh, I think he *did* look bad," said one.

"He don't look like ever comin' round agin," said another.

"That's just the way my boy Tim went," said a third. "He got a mischief, and were gone afore mornin', wern't he, Mary?"

Mr. May was very quickly at the Cleares' house. He was always sent for in times of trouble. Behind him more slowly came Mrs. Myse, who had had to put on her old black bonnet and thin cloak before coming out.

"This is a bad job," he said to the group of gossips at the gate.

"That it is, sir," said a chorus of voices. "We all know it is bad to come by a mischief, it is. He did look proper bad, did Andrew; he ain't like to get by it, I count."

Mr. May was used to the dismal tone of the Shelbourne public on such occa-

sions, and went into the cottage without saying more.

It is always a very sad thing to see a young strong man struck down by suffering, and become in an instant as helpless as a child. It was very sad to see honest Andrew flat on his back on Jonathan's bed, the tears streaming down his cheeks from sheer physical suffering, and his poor mother crying beside him, while they waited for the doctor. Jonathan was gone for him.

Mr. May thought it would be much better to send Andrew to the hospital. They could get him to Hepreth in half the time they would have to wait for a doctor to come from there. And Andrew thought it would be better too, knowing that his strong mother had very little nerve or self-control, for all she was "so big and lusty," as folk said.

So Mr. Falk lent a horse, and another farmer a cart, and Jonathan and Mr. May laid a mattress in it.

And then Jonathan came up to his bed on which Andrew was lying, and said—

"Can you bear for me to lift you, 'Drew lad?'

Andrew lifted his honest eyes beseechingly to Jonathan's face. The look said—"Don't hurt me, Jonathan; I'm quite in your power." He didn't say anything, but his lip quivered.

Jonathan put his strong arms under his friend, and carried him as tenderly as if he had been a little child. Mr. May walked in front, supporting the leg that was broken.

Then several men lifted him into the cart, and Mrs. Myse and the village nurse put a pillow under his head, and a wet handkerchief on his heated forehead.

Poor Mrs. Male, trembling and useless, must still go with him.

"And so I'd best go with her," said Jael, pulling her sleeves down, and flinging the great tears from her eyes. Next to 'Scilla and her father there was no one she loved so well as Andrew.

But Mrs. Male fainted before she got into the cart, and had to be carried back to the house; so there was no need for Jael, and Jonathan alone undertook the charge of Andrew. He opened a great umbrella, and hoisting himself on the edge of the cart, held it over Andrew all the way.

Now and then he replaced the wet cloth

on his forehead; once, when he got near the hospital, he dried the tears off Andrew's face.

"Thank you, Jonathan," he said, feebly. There was more difficulty in getting Andrew out, than in lifting him into the cart, for the hospital had a yard and big gates, and no one was near who could help Jonathan.

It was then, when on moving his friend gently, Andrew opened his tearful eyes again and moaned, that Jonathan's heart failed him.

He turned away.

Afterwards, plucking up his courage, he went back, lifted Andrew, mattress and all, and laid him inside the gates.

And then help came; but when they had got into the large ward, with flowers on the table and the strong smell of disinfectants and soap in the air, the surgeon saw that the big, dark man who had brought in the patient was almost as much in need of brandy as was Andrew.

But he recovered very quickly. And it was he who helped the nurse and surgeon to undress Andrew, and who stood beside him while the leg was set.

"He'll want a change of linen: I suppose you forgot that," said the kind, motherly nurse.

"I've just thought upon it," said Jonathan. "I'll bring them back to-night."

"Or to-morrow would do," said the nurse. "But you had better take these with you."

She made his clothes into a bundle, tied them in a cloth, and gave them to Jonathan.

"You're a bit easier now?" asked he before he turned to go, looking concernedly at his friend's white face and closed eyes. "Is there anything I can say to any of them?"

"Tell mother I'll be better soon, and let 'Sc——' "

"Yes, I'll let 'Scilla know," said Jonathan, and went out on tiptoe on his hobnails with the bundle under his arm.

CHAPTER VIII.

WHAT PRISCILLA SAID.

JONATHAN got out of the cart at the Males' door.

"I left him comfortable, as far as he

could be," said he to tearful Mrs. Male. "They'd set the leg, and that, and put it in a cradle. The doctor says he must have pain for a while, but that's no wonder."

"Oh! Jonathan, my boy," she said, holding her hands over her massive person, "I'm all of a totter and a tremble. I think I did feel bad when they come to tell me; but when I come in over the door, and see the dear poor creature a-lyin' there on that there bed o' yourn, I thought that die I must. It took me so here," she went on, holding her heart, "I never thought that live I could."

"You'd best think of sayin' a word o' thanks to Jonathan, as has fetched him to the hospital," suggested her husband, who was dry-eyed, but very troubled and anxious, walking up and down the little room.

"But dearie me, Abraham," said his wife, "it's very well for you to take it so easy, but if you'd have been in my shoes, terrified and come over you'd have been too. To see 'Drew a-lyin'-and them poor trousers o' his as I mended last week all torn to rags about the knee where the horse kicked him, and that stained with blood you'd have thought his nose had bled at the wust it ever is. And to see his shirt as Jonathan's fetched home!" And as she began opening the parcel she broke off into a violent fit of weeping.

Abraham Male got up, opened a drawer, and put the clothes into it. He shut it again decisively, and placed the kettle on the fire, settling it sturdily between the sticks.

Jonathan helped him to rake up the coals into a flame.

"There's nothin' like a cup o' tea for them women," said Mr. Male, under cover of his wife's sobs. "It sets them on their legs again. It's wonderful."

Abraham, who had been sent for to hear the bad tidings of his son's accident, was too late to see him start for the hospital, but he was too much troubled to go back again to his work, and he did not like to leave his wife in such misery.

"I'd go in to see the boy, and willin', and take his change o' clothes," he said to Jonathan; "but I don't like for to leave the missus, she do take on so."

"And I'm a better man than you, master," said Jonathan, watching Mrs. Male while she tied up the clean clothes

in a red handkerchief, and knotted the ends together.

"And you'll have to walk all the way, Jonathan," she said. The cup of tea had made her much better, and her kind heart was full of gratitude.

"That's easy done, missus," said Jonathan; and wishing them good afternoon he went out of the house.

"You'll call in when you come back?" Martha shouted after him, and her voice had got back to its natural tone.

"Trust Jonathan for that," said Abram, eating his bread and butter, and sipping his colorless tea at the table.

Mrs. Male was watching the man that was so soon to set eyes on Andrew, from the window.

"Gracious me, whatever makes him take that road? He ain't agoin' straight towards Hepreth."

Jonathan, as Abraham said, knew his business. He was taking a short cut to Josiah Thorne's house, or rather to the long lane, which was the only path to it.

He had not forgotten his promise to Andrew. Priscilla might be at home; it was not likely, but he would give it the chance, and then it would please Andrew to hear about her.

"Would she care?" asked Jonathan as he trudged along. He very much doubted it.

There was here and there a yellow leaf in the high hedges that threw their tall shadow over the rutty green lane, and here and there a red May-berry. The sun was already sloping toward the west, behind the steeple of Shelbourne Church. Now and then, with a whirr, Mr. Falk's or the Squire's partridges rose in the fields on either side the lane, disturbed by the unwonted sound of footsteps.

Jonathan wondered—as he drew near the orchard where he knew the Thorne's little home was buried, and saw the brambles climbing over the apple-trees, the bindweed and bryony tangled together over the broken fence, and the gate half off its hinges, looking out tipsily into the lane—how such a place and Andrew should have much to do with each other. He wondered on, when he saw Jael's torn skirt hanging on the wall opposite the little crooked window, and thought of Jael, as he had seen her that morning, in the battered brown hat, with the brown face and keen eyes looking out under it.

Not that he despised Jael—he had a very warm corner in his heart for her, for he pitied her, and in many ways he could not help respecting her. Mr. May would have told you the same about Jael any day.

But order, and neatness, and comfort were the prevailing features in Andrew's home. Everything was respectable and respected, and, in a simple way, just as it should be.

Here everything was anyhow. Sometimes the rooms were swept and clean—sometimes they were not. It depended upon whether Jael was busy or not. Priscilla tried to clean up sometimes, but she did not seem fitted for it. She herself always looked clean and pretty, but her hands were too white and long for scrubbing and such coarse work. It was whispered that Priscilla's father had rare old blood in him; and it needed something to account for her beauty and refinement, when compared with the other village girls. But of this Priscilla herself knew nothing. To her strange, childish mind it had never occurred that her mother bore her maiden name, and seldom, if ever, spoke of her father. And there was the less wonder, since Jael was always called "Jael," and nothing more.

It was well known that if there was anything that Jael wished to guard against, it was this—that Priscilla should ever learn the story of her birth.

And Jael, though she was plain-spoken, had made no enemies. Few cared to speak to Priscilla at all, though all liked to look at her: they thought her too witness to be much noticed; and fewer still would have wished to tell her the story of her mother's fall.

Shelbourne, in this respect, had a much higher tone than many parishes. Morality, alas! has too often much to do with fashion; and it was not the fashion in Shelbourne for girls to lose their good name.

And Jael, the plain ill-used girl, who had sinned so many years ago, was more anxious over her beautiful child than many sober, respected matrons.

Many nights she lay awake thinking of what would happen to Priscilla if she died first.

"Maybe it's because I've been so near the devil myself," she would say sometimes to a neighbor. "I doesn't like to

think o' any one as belongs to me, or doesn't belong neither, a-goin' that road."

To Jonathan's surprise, Priscilla was at home. Most days she spent wandering about in the lanes or copses. But to-day she was seated on her grandfather's bed, talking to him now and then, when he spoke to her.

Jonathan climbed the ladder.

The old man's blue eyes were fixed on him directly.

"I've got company to-day," he said in his thick, feeble way.

"Yes; so I see. You aren't often at home, 'Scilla, are you?"

She looked down, and lisped "No."

Jonathan noticed she was pale. Perhaps she had heard about Andrew, and was sorry?

Yes; she had heard, and she looked up and said, "I'm very sorry."

Jonathan trudged joyfully on to Hepreth; and more partridges whirred up in the fields, and several men passed whistling. Jonathan whistled a little too, though only that morning Andrew had "got the mischief." Everything looked happier and brighter; perhaps it was partly the reaction that always follows on any strain of anxiety or trouble; but it was also that now Jonathan could say in all truth to his David,

"I've seen Priscilla, and I've told her about you. And she looked very down-hearted, 'Drew. She is very sorry about you."

David's eyes were quite dry when Jonathan went into the ward—at least they looked so to the nurse, who was talking to him. But to Jonathan they looked brimful of tears; and after he had given his message there could be no doubt about it. They overflowed and rolled hotly on to the pillow.

And Jonathan would have liked to have dried them; but folks were looking on, so he didn't.

CHAPTER IX.

HOME FROM HEPRETH.

It was dark before Jonathan got home again. He went first to Abraham Male's house.

He had not long to wait for Andrew's mother to open the door. She had been listening for footsteps for an hour gone by.

Jonathan had good news to give. Andrew was not so "dull," he said. He had cheered up and said he should soon get well, and come home again. Mother was not to fret, but to thank the Lord it hadn't been a deal worse.

Mrs. Male only had a few quiet tears of gratitude to wipe away now.

"But oh, Jonathan," she said, "what'll the damage be? you've lost a whole day's work."

"Nothin', missus, nothin'," said Jonathan, turning away.

And then came an ominous sound from the chimney corner where Abraham Male was sitting, as he passed his coat-sleeve across his face.

As Jonathan went home he met Mr. Falk, who had been up to the schoolmaster's house.

"Good evening, sir," said Jonathan. He expected Mr. Falk to ask after Andrew.

"Good evening, Jonathan. I wish you'd come up to my place when you've an idle half hour. I want to ask you about the stove in that greenhouse. It don't act, and we may be expecting frosts next month—at least the month after. This is the last day of August, I think?"

"Yes, sir. I'll look in on Friday. I've got a job in the church that morning, so it'll be handy. We're much obliged to you, sir, for the loan of the mare. We got Andrew in comfortable."

"Oh, quite welcome," said Mr. Falk, hurriedly. Perhaps, like Jonathan, he disliked being thanked.

As Jonathan turned in at his own gate he looked at the bright lights in Mr. Falk's windows; he could see the leaping of the flames in the parlor, through the trees and the big green gate. He could not help a feeling of envy that sprang into his heart. If things had been otherwise with him—if his father had not lost his health and his work—such a home as that might have been Jonathan's. Golden prospects had opened before the young mechanic—high wages, a good position, everything that raises the ambition in the man had been in his grasp. And now—it was so different.

He opened the door, and saw his mother patching at his corduroy coat. There was a mess of greens and potatoes on the hearth, and a slice of cold pork on the table, ready for his supper; and Jon-

athan the elder, in the slouch hat, was bending as usual over the fire, white and silent, with compressed lips.

Jonathan gave a sigh as he sat down to his poor supper, and yet no one cared less for what he ate. But he did not sigh again. He could not grudge anything to Mr. Falk, who had always been so open-handed and pleasant with him. And then he fell to talking with his mother about Andrew.

"I've got a nice bit o' beet I *wish* as I had sent along with you to him," said Mrs. Cleare; "but you'll likely be going again, Jonathan?"

Jonathan smiled.

"I don't think they'll let him have the beet, mother; but I'll be going again."

"His father's agoin' We'nsday," said Mrs. Cleare, "so they tell me. But I'm so dull o' hearin' I'm afeard to repeat anything as they says," she added gently.

"Then I'll go Saturday," said Jonathan, slicing at the cold pork, and eating with such an appetite that his mother rejoiced behind her spectacles.

Jonathan the elder drew in his chair, and took some supper too. This rejoiced his wife more than ever. But she stitched away with turned-down eyes, and her prim sweet mouth betrayed nothing. She had little or no influence with her husband, but she had not lived with him thirty years for nothing.

"I think yer father *did* eat a nice bit o' supper to-night, Jonathan," she said, when he had gone to bed without a "good-night" to either of them. "But it don't do for me to make no count of it; it 'ud set him off his food at once."

"How's he been keeping to-day?" asked his son.

"I don't think he's been other than sadly. He don't say nothink; he's sich a *close* man. But Becky's been in, and she told me she'd heard him a-moanin' to himself in the garden. I don't see as he gits no better, Jonathan, I don't."

She looked very sad for a few moments; but with that quiet sadness that some women carry with such grace. Most of us rebel at trouble; but there are some who have companioned with grief so long it has become part of their nature, and the struggle has long since ceased. There are a great many saints and martyrs in villages, as in history or in convents, who wear this look. There

was one who wore it in Shelbourne, and that was Mrs. Cleare.

Next day Mrs. Myse calling to see Martha Male, found her much comforted. She was washing Andrew's clothes and taking a sad pleasure in it. She had his sock pulled lovingly over her hand, as she stood by the wash-tray.

"There's the very socks as ever he had on," she said, shaking her head over them.

"It's good he has such a friend as Jonathan," said Mrs. Myse.

"Yes, ye see, ma'am, they've allus been mates. They've been wonderfully arter each other since ever they were lads at the school. Mr. Byles he knows that. And Andrew'd do the same for Jonathan any day, that he would, I'm sure. I knew as somethink were a-goin' to come to 'Drew,' said Mrs. Male, her superstitious imagination carrying her a little away from the truth. "Soap never slipped with *me* as somethink didn't come of it. Dearie me, I hope it won't slip not agin to-day. But there's a sayin' as troubles never come single."

Mr. May joined his aunt, and they went up to Josiah Thorne's together.

"It's a long time since I have seen the poor old man," said Mrs. Myse, stepping along gallantly beside her thin, tall nephew, in his black alpaca coat, girding up her neat little black-brown dress, and showing a pair of flat cloth boots, with galoshes pulled over them. Her face was always thin and sallow—his face was thin enough too. Mr. Peel, the butcher, was quite sure Mr. May and Mrs. Myse did not get enough to eat, and there were many people in Shelbourne who agreed with him. Some people thought they had hardly enough to wear. But all weathers saw them trotting about together in the parish—the tall, lean, sweet-faced nephew in alpaca; the short, sallow, sickly little aunt in galoshes.

This was the one point in which Mrs. Myse was guilty of taking care of herself. Self-preservation must come out somewhere, with the most unselfish of us: it came out in Mrs. Myse in galoshes.

The time had been when neither clergyman nor neighbor cared to go and see the Thornes.

They had always been a strange lot—strange in their ways and looks. The little house they lived in now had been pulled down by Josiah and his father, and moved brick by brick to be built up again

in the heart of the green little orchard at the end of that out-of-the-way lane. They built it together without help : hence the ladder which served them as a staircase, and the simplicity of the arrangements altogether—the crooked fireplace, the crooked windows, and a half-a-dozen other crooked things.

And when it was built, Josiah did not want to have much to do with neighbors. After Jael's fall he shut himself up more than ever. It was easy to do, seeing how far he was from the village, and how rutty the lane was. Neighbors used to say they saw him squatting all day in the orchard with an old gun, shooting rooks or squirrels. Mrs. Myse herself had seen Jael up an apple-tree, throwing the apples into Priscilla's lap when she was a little girl, and was told to stand there and hold out her apron. But Mr. May and old age had softened the old man's heart, if it needed softening. He allowed "the minister" to come and see him now, and liked to hear him read.

Especially he liked the story of the Saviour's sufferings, though it was almost too much for him.

"I can't make out how they could do such queer things!" he would burst out when he heard of the insults offered by the soldiers ; and he wept like a little child.

Very childlike he was as he lay there ; ignorant, simple, and full of a quiet, unwavering faith, his dull ears straining to hear what Mr. May read. "Oh, no, we oughtn't to fret, we oughtn't. Look how He suffered ; look all they put Him to ! And yet He existed 'em all. I've had a deal o' trouble, I've had, i' my time. But the Lord He helped me through. I can't see as well as I used to could, but I sees the angels sometimes of a night, agoin' up and agoin' down—beautiful—past the winder."

"Where's Priscilla ?" asked Mrs. Myse, when the reading was over.

"She ain't never here, my lady—scarcely never. She likes gaddin' about best. She's allus arter flowers and sich-like in the copses. I don't blame her, I don't; it's very nice to be i' the fresh air. I forgets how he smells now, it's so long sin' I been out in him. But he had a sweet smell—he smelt beautiful, he did, o' mornings, when I were with the stock. And it makes ye feel warm-like and comfor'ble when ye gits in." And he pulled the poor, thin,

blanket up to his sharp chin and shivered. His blood was beginning to course very slowly at ninety years of age.

"What a pity it is that poor child Priscilla can't do more for him," said Mrs. Myse, as they went home.

"The pity is," her nephew answered, "that that fine fellow Andrew cares for her."

CHAPTER X.

SIN AND SORROW.

THE Friday after Andrew had met with his accident broke with such serene beauty over little Shelbourne, and all the country round, that one would have thought grief and trouble had taken wing, and belonged to another world.

Mrs. Male, "tidying up" so as to be free next day to go to Hepbreth hospital to see her boy, got quite hot in the sunshine that streamed into her room, and let the fire get low "a-purpose," as she said.

Jonathan had left the shop and the forge soon after eight o'clock, and gone to Pedley, the clerk, for the church-keys. He had a job to do there to the lock of the door.

The little grey tower stood out against the pale blue sky, and the cock on the top shone like gold in the sun. The Virginian creeper on Mr. Falk's brewery was beginning to put on its autumn dress of crimson and gold. The reaped fields round about lay resting in the sun, and the lark rose from them carolling gaily. Cocks and hens were all out and about, crowing and cackling, and making the most of the fine morning. It might have been midsummer but for the extreme stillness that comes at the close of the year as of the day ; and that here and there on the green graves in the churchyard on which the dew was shimmering, a little golden leaf had fallen—just one or two out of the great mass of foliage overhead, to remind people of death for them, and for the year.

Jonathan was soon at work at the lock. The church was quaint and old ; old carved seats, old monuments of knights upon their backs, old brasses of monks in embroidered vestments ; and a Crusader with a dog at his feet, his visor down, and his hands clasped over his mail-coat.

Through the broken but richly colored east window a stream of sun was pouring

in. Dust motes were swirling in the long beam, and here and there a wakened fly was buzzing at the colorless windows opposite the door where Jonathan worked.

There was nothing to disturb him at his work. He looked out now and then at the sunshine, and the diamonds and rainbows the dew was making for him on the graves and in the low privet hedge. And he noticed that a group of women had gathered in the village street.

"Something's up," said Jonathan. But he felt little curiosity about it, for he knew Andrew was going on well. And he put the last screw into the plate of the lock, kneeling on one knee and turning the driver deftly with his strong fingers. If it was only a screw that Jonathan had to see to, he gave to that screw all his mind for the time being. That was the secret of the village saying that Jonathan made a "rare job" of anything he set his hand to.

"Fine morning, master," he said, as old Pedley, the clerk, came and stood between him and the sunshine. "What are the women after down there?"

"Dun' know," said Pedley, smiling. "But it's mostly bad news when women gits together. It's like gulls: when they comes ashore o' a heap, that means foul weather."

Jonathan gathered up his tools and went on to Mr. Falk's gate. Sarah, the servant, was leaning over it, talking eagerly to one of the village women.

"What's up?" asked Jonathan.

"Deed you may well ask. If it isn't a sin and a shame—and she that witless and innocent."

"And that young," said Sarah.

The words "witless and innocent" roused Jonathan's curiosity, even a little anxiety. Could it be 'Scilla—had anything happened to her? What would Andrew say if 'Scilla were ill or dying, and he not there to see her.

"Speak out, can't you?" he said. "What is it?"

"It's that poor thing 'Scilla," said Sarah, sighing. "And it's a sin and a shame of Andrew, it is. It isn't as if she were a girl as is all there. She's come to trouble like her mother, she has, and whatever's to become o' the child no one can't tell. For it ain't likely Jael hasn't enough to do and to send for, without another comin' to help empty the pot."

Jonathan stood rooted to the ground. 'Scilla come to this! 'Scilla disgraced, and 'Drew the cause of it!

It was that that hurt him: it was that pained him to the quick. Sin there was in the world and all around; too much, indeed, for Jonathan to have marvelled that any poor girl had lost her good name. But that harmless, innocent Priscilla should be a victim—it was shameful, shameful, said Jonathan to himself. And worst of all, Andrew, his friend, his David, had brought her to this. His love had been *that* sort of love, had it?

Jonathan went into Mr. Falk's greenhouse, where he was to look at the stove.

He did look at the stove. He looked so long without moving that he awoke out of his reverie with a sort of start. There was a heaviness at his heart he could not away with. What would he have to tell Andrew when he went to see him next day?

He tried to apply himself to his work. Then he remembered he ought to see Mr. Falk about it, before beginning. He had seen him at his breakfast as he passed the snug dining-room window, and Sarah had rushed in, full of the news, to pour it out to her master.

He went round to the front door. Mr. Falk's breakfast was over, and Sarah was clearing away. What a long time Jonathan must have stared at the stove. He rang the bell, and Sarah answered it.

Her master had just gone out at the back, she said.

Jonathan felt relieved. He did not want to see even Mr. Falk just then. He shrank from the reproaches he must hear heaped on Andrew. It could not matter about the stove to-day. It seemed to Jonathan that nothing could matter, but the one thing that filled his mind. Poor little Priscilla! How could any man wrong her so? Least of all Andrew.

Perhaps the bitterest cup that it is ever man's lot to drink is that which he tastes when he falls irrevocably in his own esteem. But the next bitterest is when a dear friend falls: and we have to look on and see that he has fallen. Forgive him, excuse him we may; but to put him in the old place, quite in the old place, is that possible?

All the day, wherever Jonathan went the same cry rang in his ears, "Shame, shame, on Andrew! He that was by way of

looking after her, taking care of her! He that folk called so steady and upright in his ways!" All the more, for the good name he bore, was reproach and censure hurled at Andrew.

"People as make no perfections we don't expeck nothin' of sich," said some ; "but, when folks carries theirselves higher than their neighbors, and is so chary of their company and sich, we does expeck them to live up to it."

Not that poor Andrew had ever made any enemies. He had only earned a good name.

Jonathan could not face Andrew's mother before he went to Hepreth. And go to Hepreth he would. All the world would be against Andrew now, so it would never do for him to give him up. He sent his mother to Martha Male to ask if she were going in too, as she had promised. He had agreed to walk with her.

"She ain't a-goin', Jonathan," was the answer, when Mrs. Cleare came back. "She's ta'en it terrible to heart, she has. She says she couldn't go anigh him, and not give him her mind, she couldn't; so she's best away."

CHAPTER XI.

THE OLD BIBLE, AND WHAT IT SAW.

JOSIAH THORNE had an old Bible that lay always upstairs in the bedroom, on the top of the rickety chest of drawers.

It had a comprehensive inscription on the first page—

"Josiah Thorne—A present to him, and it's his Bible."

It had been Jael's custom, ever since Priscilla had been a little girl, to use this Bible as a magician would his wand.

"Scilla," she would say, when she was doubtful as to whether Priscilla were telling her the truth about some childish misdemeanor, "I'm a-goin' to look in here, and that'll tell me true. So now it ain't no use for you to try no deceivin'."

Jael could not read a word of the Bible, no more could Josiah. But that did not make her hesitate in the least about referring to it to "tell her true." And Priscilla had learnt to look at the old brown cover with a childish awe. The terrible book that was never looked at except when something was wrong, and that then

would infallibly speak true and show up the offender—what respect could be great enough for it?

On the sad Saturday night after poor Priscilla—the sinned against, rather than the sinning—had brought an unwelcome little infant into the world, Jael sat stunned and stupefied at the foot of the bed where she lay.

A dim light fell over the poor bare room. The father slept peacefully, and only his quick breathing disturbed the silence.

Priscilla was awake at first, but Jael did not speak to her. What was there to say? It was all past words—the sin, and the shame, and the trouble. The old Bible lay there closed upon the drawers; what use to ask it questions?

Jael sat bowed down by the weight of it all. The Lord's judgments were very heavy on her. She had hidden the story of her own fall so long, so watchfully; but her sin had found her out. The girl that did not know her mother had fallen—had fallen too. The Lord's ways were past finding out, said Jael, who felt all the time that she had brought her own griefs upon herself, and that never had she seen the wages of sin dealt out more faithfully.

All the hopes were gone; the comfort, the happiness of later days. Andrew marry 'Scilla? Fool that she had been to think it! Doubly fool not to have known men better; she who had suffered so from their false promises herself.

She moaned as she thought how she had let him come about the place, how she had felt happy when he brought home 'Scilla, how she had petted the viper that had crept into her nest. And he had never promised even to marry 'Scilla: and yet Jael had trusted him!

Her poor child; her poor witless, innocent child! The tears that had been long time strangers to Jael's eyes coursed over her weather-beaten face, and fell drop by drop upon the brown hands folded on her lap. How much there is in the folding of the hands. The complacent folding of content was not an attitude for Jael Thorne at her happiest moments; now it was the woefuldest despair that looked from the woman's unstrung form, and loosely folded hands.

The silent hours went by, and still the clock ticked solemnly in the little room below. Some rat rushed shrieking through

the rafters. All else was silence; only Jael's tears flowed on.

They hardly flowed; their channel was too dry, too long unused, to allow of that healthful stream of weeping that best eases a woman's heart. Jael's tears were wrung from her, slowly and painfully; and though they fell often, her heart ached on without relief, and a sharp physical pain came into her parched throat.

She was forty years old. She had known suffering, poverty, loneliness before; she had seen in herself that worst enemy—sin. But now the last and bitterest blow had been dealt. The old enemy had been on her track again, and this time he had laid wait for and ruined, not her, but her child.

"The Lord is a hard man!" cried poor Jael; "a hard, hard man!" And a few moments after, with a paroxysm of anger and grief that shook her sturdy frame, and convulsed her plain, flat features, she threw herself upon her knees beside the bed, and moaned into the faded patch-work counterpane at 'Scilla's feet.

"Andrew, false and cruel, to come across my door with yer wheedlin' ways and yer comely face and well-favored bearin'. It's comely faces that does all the ill in all the world. *He* came to me with's comely face, with's promises, and his deceivin'! And I were plain—not looked at like other girls about. I hadn't never a sweetheart. He took my heart, he winned it away he did—and then he took my clean name from me. But it's on'y me as is hurt by that, and the Lord He knows I bore w' it, and held my peace, and folks was good and didn't shame me open. But the child here that the Lord g'i'e me as was made so fair a-purpose for her ruin. Lord forgi'e me! I forgi'e Thee as has done this, for I done wrong I don't deny to Thee. But what had I done to Andrew that he should wrong the child and me? Lord, they says as Thou has pity on the poor. I dun' know Thee; it ain't likely as Thou 'ud know a deal about me. But I tell Thee as Andrew Male, of Shelbourne parish, has done me a grievous wrong, and her he's ruined—look how she lies there a-sleepin', and the babe upon her arm! My sweetheart as is dead—Thou knows as I forgave *him* long ago, but don't Thee forgive Andrew Male! Thee won't, Lord, if Thee knows the rights o' things!"

Priscilla turned in her sleep, and made

a crooning sound as she drew her baby nearer to her. Jael lifted up her face an instant and stayed her torrent of words and moanings.

The candle had burnt down into the socket, and was throbbing out its life. But the room was light; the first dawn was stealing in again through the elm tree at the garret window.

Five o'clock boomed out from the steeple at Shelbourne. Jael shivered and knelt on, crouched up by the poor bed, her grey hair disordered, and her weary eyes fixed on the pinkness of the far-off sky.

Priscilla turned again.

"Do 'e want for anythin'?" said Jael, in a low, hoarse voice.

"Give me a drink, mother."

Jael rose from her knees, and found herself stiff from cold and from long kneeling. She filled a cup with water and put it to Priscilla's lips. The girl drank, and then turned contentedly on her pillow to look at her baby.

Tenderly those untaught hands drew the ragged flannel round the little child, for whom no preparation had been made; lovingly the witless girl drew the warm armful to her breast. For her mother she had never shown love, if she felt it; she did not thank her now, or seem to notice that she was about and dressed, and waiting on her through the night.

But this child—the fruit of sin—this Priscilla loved! Again she drew it closer to her, and again Jael heard her croon in pleased content.

It was such a mockery of Jael's anguish, of the black, long night, spent in tears and grief; of the shame and the sin that had come upon her—it went to Jael's heart like a sharp knife. All her self-control left her, and regardless of 'Scilla's state, she poured out the burden of her poor heart into the girl's ears.

She fell upon her knees first, and then dragged herself up towards the pillow. 'Scilla, smiling, looked tranquilly at her.

"Well was yer name called Thorne," said Jael fiercely, clutching at the bedclothes and looking at the beautiful face that pressed the pillow. "A thorn to me you've been since ever the Lord planted 'e in my side. I've loved 'e, grieved over 'e, toiled for 'e, and all for this—that 'e should go into the paths of sin and fall, as yer mother did afore 'e. And that babe, there,"

she cried, lifting up her hand,—'Scilla drew the baby nearer again, and looked frightened,—“ all the love as ever was in that heart of yours is given to that!—to that! Andrew [Male, may the Lord hear me—”

“ Missus! ” said a voice behind Jael, at the head of the stairs.

Jael turned round and saw a man's shadow in the doorway.

It was Jonathan.

(To be continued.)

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THE DANGERS OF THE SEA.

BY THE CAPTAIN OF AN OCEAN STEAMER.

PROBABLY no more appalling tragedy of its kind than the burning of the emigrant ship *Cospatrick* ever occurred on the ocean. The captain throwing his wife overboard to drown rather than burn, and then leaping after her, the surgeon throwing his little son, and himself following, are incidents which will not quickly pass from memory. Amidst a long recent calendar bearing witness to the dangers of travel, it stands the foremost in magnitude. Yet there is no fear of the tide of emigration being checked so long as the inducements held forth make it worth a man's while to change his locality.

It is all the more the duty of officials to lessen these dangers by every possible arrangement which practical science can suggest. Too many theories, along with gross disregard to their application, seriously increase the perils of the sea, while lulling people into a sense of false security. Of what service are boats in an emergency if they be turned bottom up inboard on ships, or placed athwartships, frequently in situations where the greatest skill is required, even under ordinary circumstances, to hoist them in and out? Given a heavy sea, the horrors of a fire, and last, as is too common, an undisciplined, disobedient, and unseamanlike crew to work with, and the results are easily calculated. What is required is not more boats but more precautions and arrangements, to make their, at best, doubtful aid unnecessary. I will ask any one who has the slightest knowledge of that wild piece of water between Queenstown and New York, if the expensive system of boats, which crowd our magnificent ocean steamers, materially lessens the chances of danger? The sea of that stormy region requires them to be securely swung inboard, and secured with six or eight chains each; yet with these precautions a bad winter never passes without a serious loss or in-

jury to these cumbersome fittings. When a distressed vessel has to be boarded to take off or relieve the crew, the greatest care is necessary to get the boat safely clear of the ship; and in hoisting up damage generally occurs to such an extent as to cause abandonment. Several instances have occurred during the present winter.

With such facts before us it is evident that other life-saving appliances are worthy of mature consideration by the Board of Trade; and in appointing a committee they will act wisely in giving the merchant nautical element every opportunity to bring their experience to bear, in lieu of depending so much on the testimony of naval officers who, as a body, really know nothing of the difficulties shipmasters have to contend with under such trying circumstances as a fire, or the abandonment of a ship at sea. From my own knowledge of the subject, I unhesitatingly say the late Royal Commission on ships and seamen have, in the evidence of an old Liverpool shipmaster (Mr. Ballantine), all that is required to point out the alarming condition of the *personnel* of the mercantile marine of this country, and the entire absence of power on the part of the masters. The loss of the *Cospatrick* points out a singular anomaly in maritime law, viz. the emigrants are entirely under the authority of the surgeon, not the commander.

The writer of this article is personally cognisant that many of the young surgeons who hold this responsible appointment are only a year or so from college, and is not aware of any existing law to debar them from obtaining it immediately they receive their diploma. Such a system places all authority and discipline in the hands of an inexperienced youth who has no idea of the responsibility of his situation, or the knowledge and tact it requires to rule a large body of men by moral force

alone. Maritime law provides no other. To the commander should all power be given to make what regulations he thinks best for the safety of the large number of lives committed to his care, and on the arrival of a vessel in a British colony, at least, any infraction of them by the emigrants or abuse of them by him personally should be rigidly inquired into. A few examples would quickly work a salutary effect on the delinquents, and should be posted up on the lower deck of all emigrant ships as a warning to offenders, just as we see them in railway stations.

As a general rule, the emigrant is provided with a straw mattress. The Board of Trade should compel the vendors of these articles to soak the straw in a solution which would prevent its kindling into a blaze. He also stocks himself with a large quantity of cheap lucifer matches of the most inferior quality. There is a law against the carrying of the latter dangerous article by passengers, but anyone who has made a voyage in an emigrant ship will remember the constant crackle and flash of the match as the smoker lights his pipe, at a companion way, or other sheltered spot. A few months back, a startling instance of the danger of fire from this cause alone came under my observation in an emigrant ship. The luggage was being hurriedly struck into the hold, and a portmanteau on being unslung emitted smoke from the interstices of the cover. It was hoisted on deck, opened, and among its contents were two boxes of wax vestas, each containing several hundred matches, which had caught fire by the shock of the portmanteau striking the lower deck. These had set fire to the linen, and it is highly probable that had the smoke not been noticed the ship would have been on fire in a few hours. Such gross infractions of the law require prompt punishment, but what power has the ship-master to meet such cases? It is not uncommon in bad weather to catch some reckless or thoughtless individual smoking in his berth with his head wrapped in a blanket to avoid the observation of the steward on watch if the supervision on board be sufficiently vigorous to enforce such a judicious precaution.

It is to be regretted that in all classes of merchant ships smoking below is an acknowledged custom. Jack lies on his dirty bed of straw with pipe in mouth,

reading some old scrap of a newspaper, or the pages of a novel, and not unfrequently falls asleep with the burning embers beside him. The mystery is not why the *Cospatrick* was burned, but why such accidents are not constantly occurring from this and other causes. To mention one which happened not long since in a magnificent steamship. During a gale of wind a steward was unpacking a cask of wine, when a sudden send of the vessel unhooked the glass lantern from the beam overhead; it broke in the fall, set fire to the straw, and in a few minutes the smoke rolled in volumes from the hatchway. Fortunately, the fire hose was always ready near the spot, and in a short time the flames were got under. Immediately adjoining the store room, and separated by only a thin partition of wood, several hundred bales of cotton were stowed, and had the fire reached them the ship would have been in a blaze forward, and perhaps totally destroyed with all on board. Then conjecture would have been actively at work concerning her fate, just as it is at this day about the *President*, the *Pacific*, the *City of Boston*, whose mysterious disappearances remain amongst the secrets of the great deep.

The Board of Trade might do much by judicious management to alleviate or lessen the chances of fire and shipwreck, but it is a matter of doubt whether their present system is not productive of more annoyance to the shipowner than benefit or safety to the passengers and crew, except in regard to victuals, where it is rigorously carried out in the majority of inspections by emigration offices. In this particular branch the matter is simple enough; anyone can tell good meat from bad, old biscuit from new, and the passengers would soon find out if they were badly treated, and complain of it. It is right, no doubt, to look after such things, even though their inferiority would seldom endanger human life. More essential, however, than quality of food, and less easy to examine into, are the arrangements for the instantaneous extinguishing of a fire, the ordinary handiness of the boats' positions for lowering or hoisting out, and the position, construction, and adjustment of the standard compass. It will be best to take these subjects in their regular order of precedence.

Of all the perils of the sea, fire is deci-

dedly the most to be feared. Men fight cheerfully to the last against wind and sea, but there is something in the cry of fire on ship-board which damps the energy of the bravest, because, in many instances, its origin or position are unknown. In the coal-laden ship it may have been silently increasing for days before the flames burst forth from the charred deck. As coals increase in price the danger from spontaneous combustion appears to increase in equal ratio. The reason is evident. When they could be had for a few shillings per ton there was no object in weighing the scales down with iron pyrites, which, when damped, either with sea or fresh water, and excluded from the atmosphere in the hold of a ship, are at all times liable to ignite, especially in the tropics. It has, however, been known to do this on the steamers plying between Liverpool and New York in mid-winter, after being a few days in the bunkers. With this fact before them, insurers are to be blamed for allowing shippers to insure above the market value.

On the cotton ship the stevedores men are proverbial for their recklessness in smoking amongst the bales. It is the general belief that the majority of accidents occur from this cause, not only in port, but at sea, as it is a well established fact that cotton will smoulder for days, if excluded from the air, before it bursts into a flame. Another source of danger is the presence of tar, oil, and cotton waste in the store-rooms. In emigrant ships these inflammable articles should be stowed in a deck-house, as the records at Lloyd's distinctly prove that a large number of ships have been destroyed from this cause. It is the old story of a naked light, a sudden plunge of the ship, and the mischief is irretrievably done. In all ships, if possible, but especially in the emigrant, spirits, wines, and beer should be stowed aft, in order that they may not be broached by the crew, many of whom openly declare that stealing 'grog' is no sin. It would be well, by-the-by, for the shipowner and the merchant if these formed the only objects of the seamen's larcenous attention; a glance at their books will prove that the annual amount of reclamations is enormous from this cause alone.

Where a large number of lives are at stake, more than ordinary precautions should be used, and all respectable shipowners will cheerfully meet the views

of the Board of Trade, if they be founded on a proper basis.

It may not be amiss to suggest a few additions to the present arrangements of emigrant ships. Under the deck, in each compartment, a pipe of a certain bore should run fore and aft. At intervals, couplings with a short hose screwed on should be placed so that in the event of a fire two streams of water could be brought to bear on any place where it might break out in the emigrants' quarters. Again, a small taut or scuttle butt, with a baler hanging over it, should be placed in each store-room and the forecastle. A fire is easily put out at first, but every fitting of a ship being more or less inflammable, it soon gathers head.

Experience confirms what nautical men have so often asserted, that boats are a sorry resource in the hour of danger, and often lull people into a state of false security, owing to the undue value which is attached to their presence. In all sailing emigrant vessels at least one-half of the boats are stowed bottom up on skids, and in positions which require great care and skill to get them out free of damage (witness the case of the *Cospatrick*, where these were destroyed before an attempt could be made to extricate them). As a general rule, the oars, sails, and other essential fittings are stowed below, often in some unknown place. In the case of the *Cospatrick* a woman's petticoat formed the sail of one boat.

Such a state of things ought not, for one moment, to be tolerated. A penalty should be attached if any of the fittings of a boat were removed from her after the Government officers had inspected her. In a merchant ship there is so much to do, and so few to do it, that nothing should be left to chance. It may well be doubted whether boats afford the most efficient means for saving life when a large number of people, without discipline, suddenly meet with a great disaster which compels them to abandon the ship. In every instance we hear of the violent rush to the boats, of the strong trampling down the weak, of overcrowding, and finally upsetting. Some two years since the writer saw a man leap overboard from an emigrant ship which probably had twelve or thirteen hundred souls on board. The boats had been swung inboard for bad weather, and the crew immediately com-

menced to swing one out. Under ordinary circumstances this would have been done in a few minutes, but the yelling of the emigrants and their unskilful eagerness to aid the crew rendered all exertion useless for some time; not a command could be heard, and it was not until some of them had been violently thrust aside that order could be restored, and the boat lowered. Had that ship been in danger, a legion of boats would not have aided her. In addition to these perils is the serious one of previous damage by heavy weather. It is a well-known fact, as I have before stated, that on the Atlantic a winter never passes without accidents to the boats of steam-ships. The present winter has been prolific of them.

On the other hand, pontoon rafts are easily secured and disengaged, will support a much greater number of people than boats of corresponding dimensions, can generally be launched without damage, and are not easily upset under any circumstances. Anyone who is conversant with the dangers attendant on the abandoning of a ship at sea, will allow that the chances of safety are in any case small indeed, if immediate succour be not at hand; cold, hunger, thirst, and the gale, all conspire to reduce them to a minimum. But in the event of a collision—such as the *Ville du Havre*, for example—rafts

would have saved numerous lives, whereas boats were from many causes useless. Other cases might be quoted, but none which is more vividly impressed on the mind of the public than the accident to this unfortunate ship.

Shipowners would gladly substitute a certain number of rafts in lieu of boats, as this would be more serviceable and economical than the present expensive system. By a few simple fittings a certain quantity of bread and water could always be in place, as it is in the quarter boats of all men-of-war. It is idle to expect more; the leaving of a ship at sea is not a picnic, but the result of grim necessity where one holds his life in his hand, often on conditions which some would think unendurable. In the recent case of the coal-ship *Euxine* the poor Italian sailor, after drawing the fatal lot, meekly and without a murmur bared his breast to the knives of his starving associates, who eagerly drank his blood and ate his quivering flesh. Most of us read such things with a shudder, and presently forget them; and what the old song says is still true—

Ye gentlemen of England,
That live at home at ease,
Ah! little do you think upon
The dangers of the seas!

—*Fraser's Magazine.*



REPRODUCTION OF ORGANISMS.

UNTIL the beginning of the eighteenth century, learned men refused to believe that animals had the power of reproducing their members, when accident had deprived them of their use. Fishermen constantly asserted that such was the case with crabs and lobsters; and the example of the lizard, whose tail grows again when cut off, could not be refuted. Still the subject was set aside as belonging to the region of fables and myths, until Réaumur took it up in 1712. Having spent some time on the sea-coast examining animal life, he came to the conclusion that the people were right, and science at fault. He took some crabs and lobsters, broke off a claw from each, and placed the mutilated creatures in a reservoir communicating with the sea. After a few months, he saw that new claws had already grown,

and described with great exactness the way in which these regenerations took place.

Thirty years later, another naturalist, when walking round a lake, remarked some small green filaments like plants. To try whether they belonged to the animal or vegetable kingdom, he cut one into several pieces. Soon these reproduced complete individuals; they moved about, and seized and conveyed food into their digestive organs. These were freshwater polypes. Cutting two longitudinally, he grafted them, and instead of a polype with eight cilia, he had one with sixteen.

Bonnet, in after-years, repeated these experiments, and made some further ones on the water-newt. Similar trials were made on the common earthworm; and, to his great astonishment, he found that

so complicated a structure, with so many rings, and at each ring delicate organs of locomotion and digestion, possessed the faculty of reproduction; portions cut off from either head or tail reappeared in due course. Spallanzani cut off the feet and tail of a water-newt with extraordinary results, the tissue, bones, and muscles being reproduced complete. This was several times repeated on others, and with similar results.

These experiments on the regeneration of animals, the results of which Leibnitz foresaw, made a deep impression on the mind of Buffon. He did not only regard them as curious facts in natural history, but that they confirmed hypotheses of a very high order. They were, he thought, a wonderful demonstration of the idea, that animated beings are composed of an infinite number of small parts, more or less like each other—that is to say, that life is not in the whole, but in each of its invisible elements; or, to use another expression, that general life is only the sum of a multitude of particular lives. It was a great epoch in scientific history when observation, verifying the intuition of genius, showed by these surprising results that each of the living molecules of certain creatures has in itself a principle of activity and of individual development. Some rectification has been made since the days of Buffon and Bonnet, but the doctrine still remains as a point of departure for the evolving of the history of life.

In an essay by a noted physician, we get at what may be deemed the philosophy of the spontaneous repairing of lost limbs in living creatures. 'As a general law,' it is stated, 'the power of repairing lost parts decreases as we ascend from the lower to the higher parts of the animal scale. In the lowest and simplest forms of animal life, as in polypes, separated segments sometimes become developed into whole and perfect individuals. A hydra (fresh-water polype) was cut at different times into various portions by Trembley, and fifty separate individuals of the species were developed from the segments of one. Johnstone, and Duges, and others have shown that animals with a much higher organisation—namely, the planariae (aquatic worms)—could in the same way be multiplied by artificial subdivision; the smaller divisions being actuated by the same impulse as the larger,

and endowed with power of independent motion; and Lyonnet and Bonnet found the same true of the Nais. As we ascend in the scale of life, all power of self-development in separated parts or segments disappears. . . . In the higher and warm-blooded vertebrata, this power of repairing and restoring lost compound parts seems totally, or almost totally wanting.' In short, the power of spontaneous reproduction of parts is most strongly demonstrated in the lower organisations, and in the young of certain insects. A young fly may recover a lost antenna, a juvenile spider may get a new leg for one torn off; but as flies, spiders, and a number of other creatures grow up, they lose the valuable property of recovering lost extremities. The power of recovery is 'always in an inverse ratio to the age of the animal.' So, in the human being, the reproduction or attempted reproduction of parts is confined to the period before birth—in other words, when in a rudimentary condition analogous to that of the lower organisations. In a small tract, *Two Lectures on the Diseases of Women and Children*, by Dr. W. O. Priestley (1861), some interesting facts are presented on this subject. He speaks of the immense and beneficent efforts of nature to repair the loss or imperfection of parts previous to birth. In youth, through rapid assimilation of nourishment, and the circulation of the blood, the recuperative power is developed in the growth of parts, and the comparatively quick recovery from injuries. 'A broken limb, if properly treated, is sound and well in half the time necessary for the cure of a like injury in an adult; and the rapidity with which young patients recover after severe attacks of acute disease, is proverbial.'

These observations help us to understand how nature, in dealing with lower organisations, goes the length of imparting new tails, feet, antennæ, and other extremities, to the poor creatures who have been accidentally deprived of these useful members. And how suggestive is this of the work of an ever-merciful Providence! If a man loses a leg, he has the capacity and means to procure a tolerable substitute. A lobster losing its antennæ, or feelers, has no such resource, and would die outright, if nature did not take it in hand. According to age, it will get new antennæ in from six weeks to six months.

In the reproductive phenomena, time plays an important part. A lizard, when you try to seize it, escapes by leaving its tail in your hand. Only for a short period is it tailless, so far as outward appearance goes. A new tail begins growing, and is seemingly completed in two to three months. The fresh and very satisfactory looking tail, however, is not yet properly filled up. The interior tissues of nerves, muscles, and veins are there, but not the vertebra. So long does it take to get a new back-bone, that naturalists at one time believed that this part of the structure was never recovered. It is now ascertained that a good vertebra for all practical purposes may be restored after two or three years. As for the green lizard, its new tail is of a gray color, and not until the beginning of the third year does the green tint return. It seems the dormouse has been experimented on, with a view to see how it would recover a lost tail : the process was somewhat slow, for the animal is profoundly asleep in winter, during which time the vital force is nearly suspended. A tail, it is said, was recovered, but it was rather short, and the creature—a martyr to science—died in three months.

We are told by a traveller to the South Sea Islands that there is a land-crab common in Polynesia, known by the name of tupa, which bores deeply into the soil, the holes often extending to a considerable distance. At night, the crab loves to makes its way to the sea, for the purpose of washing in the salt water and drinking it. When hurrying through the tall grass and ferns, it sometimes happens that one of its claws becomes soiled by contact with the mud. So great is its vexation at this misfortune, that it tears off its offending member. A mutilated crab is sometimes met with, hobbling along, devoid of two or three legs—a self-inflicted punishment. In some few instances, it has been known to wrench off all its eight legs; then dragging itself over the ground with great difficulty by means of its nippers, it hides itself in its hole until new limbs partially develop themselves, though they never grow to their original length and beauty.

It appears clearly from these experiments, that all the tissues which have been destroyed in the adult crustacean—skin, nerves, muscles, and bones—may be restored, and follow a series of phases identical with their first development. The

elements of the new tissue are reproduced exactly like those of the old, and attest alike the unity and simplicity of physiological mechanism. The epidermis, or outer skin, grows with the greatest facility, just as the hair and the nails ; it is indeed the same tissue. The crystalline lens of the eye, which somewhat resembles the substance of the epidermis, is also reproduced when it is taken away. Many experiments made on dogs and rabbits, proved that this bi-convex lens, which is one of the principal organs of sight, is perfected afresh in a few months.

Besides the skin, there are the nerves, the restoration of which was unknown until the end of the last century, when Monroe and some others drew up a complete theory. In the sciatic nerve, for instance, it is sometimes necessary to cut out about the third of an inch. The ends soon show an alteration ; then in about six weeks or two months, a gray lump appears on one extremity, which directs its course towards the opposite one, and reunites with it. This is composed of nervous tubes, more slender than the original ones ; but by degrees they grow in size, become whiter, the fibres are more perfect, and after an interval of four to six months, there is a cord of nerves newly formed. This process will go on even when two inches have been excised. As the matter is repaired, the progressive re-establishment of the sensitive functions can be seen, whether of motion or of feeling.

The cartilage, which is perhaps better known under the name of gristle, was considered for a long period as incapable of renovation, but in 1867 this was found to be a mistake. The cartilaginous tissue of dogs and rabbits was divided, and at the end of two months there was a complete restoration. It is also found that the thinner muscular tissues which perform involuntary movements in the interior of the body, possess the same power. One point only remained to be proved : whether muscular fibres could restore by means of similar fibres their loss of substance. This was tried on some guinea-pigs ; the muscles were cut, and after a few months, they were found to be complete again. Thus all the tissues of the animal frame can be restored in the adult, and by a precisely similar plan of development in the young.

The knowledge of these facts has been

in the practice of surgery the starting-point for many new operations, which are still advancing. Thus the reproduction of bone has especially interested the public. Bones consist of three parts—the marrow, the osseous substance, and the periosteum, a membrane which covers the outside, and which was discovered during the last century to be the principal agent in elaborating the whole structure. One skilful experimenter remarked that, wherever he could introduce the periosteum, there he could have bone, and could thus multiply the bones of an animal, and place them where there were none before. This, however, is not desirable; but as the bones are very liable to inflammation, tumors, and decay, surgery can here step in, and take away all the unhealthy parts, excavate the bone; and at the end of a few months the limb, which has never lost its form, repairs its losses, a new bone tissue is formed, and restored to the former condition of healthy vitality. Formerly, amputation was the only resource in such cases; now the limb is saved, bone gives birth to bone, just as the severed nerve re-united itself, the cartilaginous layer adhering to the periosteum being nothing else but bone in the course of formation.

The operation of grafting in the vegetable kingdom is well known: living fragments are attached to a perfect tree. But the grafted portion never becomes an integral part of that to which it has been transported; it rather develops as a parasite, like the mistletoe on the oak, and remains physiologically distinct. This, however, is not the case with animals: when a piece taken from another part of the same individual, or from a different subject, is grafted, it becomes a perfect portion, and gives the same life. The cells of the choroid coat of the eye may be transplanted, and preserve their vitality in their new home. The transfusion of blood is nothing but the introduction of red globules borrowed from one organism and transferred to another. This succeeds even if the blood passes into an individual of quite a different class, as, for instance, from a mammal into the vessels of a frog. The globules will be found after some time living, and easily recognisable as those of a superior animal.

The spurs of one cock have been grafted into the comb of another, and teeth of mammals have also been transplanted.

From these facts, surgeons took up the idea of grafting bones in the place of those that had decayed, and several attempts seemed to favor the plan; but now it is acknowledged that a graft of either the periosteum or the marrow has an unconquerable tendency to be re-absorbed, or to disappear after a time, on account of the unfavorable conditions in which it finds itself, or for want of nutrition.

More success has attended the grafting of teeth, but this is not yet quite established. The teeth spring from a little bag or follicle, in which is the organ of ivory, and that for the production of enamel. When an entire follicle was taken from a puppy, and grafted into an adult dog, the germ was regularly developed to the production of a complete tooth. The enamel when grafted alone perished, whilst the organ of ivory produced an ivory tooth. These interesting researches lead to the hope that teeth may some day be thus restored, seeing that an entire organ with a complete structure is more likely to grow than when it is only a fragment, transplanted and isolated like a piece of bone.

The grafting of the epidermis has been accomplished by many celebrated surgeons. After an operation, a burn, or a bruise, the destroyed skin is but slowly restored, and often with difficulty. Thus the idea arose of taking a piece of healthy skin from the same or another person, and laying it on the wound. It was found to require the utmost delicacy on the part of the surgeon; and instead of covering the whole with one piece, very small bits were applied each day, following the progress of healing, and replacing those morsels that did not adhere. In about twenty-four hours, the grafting was accomplished, and the wound was not as usual a contracted scar. Such are some of the efforts of physiology; the working-out is difficult and tedious, but, with skill and patience, the labors of the present time may bear future and valuable fruit.—*Chambers's Journal*.

MATILDA.—A TRAGEDY.

BY AUSTIN DOBSON,

BESIDE the stream at eventide
 We paused before we parted :
 She, being older, only sighed,
 But I was broken-hearted.

“ Once more (I said) our troth we plight
 Beside this brimming ocean ; ”
 The river rolled its usual height,
 The rest was all emotion.

She answered not,—my Love, my Queen !—
 She gave a gentle shiver ;
 (Old seasoned suitors know how keen
 The breeze comes up that river).

“ A flower (I said), a flower for sign
 Of Love approved—confest,”
 (I marked a Rose, more red than wine,
 That rose upon her breast).

She gave it. Subtlest essence fell
 From each pink petal-fold ;
 I wore it—though my sense of smell
 Was something dull—from cold.

She went. And yet no Fate has lit
 Our hymeneal taper ;
 But that’s not all the worst of it :—
 The Rose was only paper !

—*Evening Hours.*

PRESIDENT LEE,

OF THE WASHINGTON-LEE UNIVERSITY.

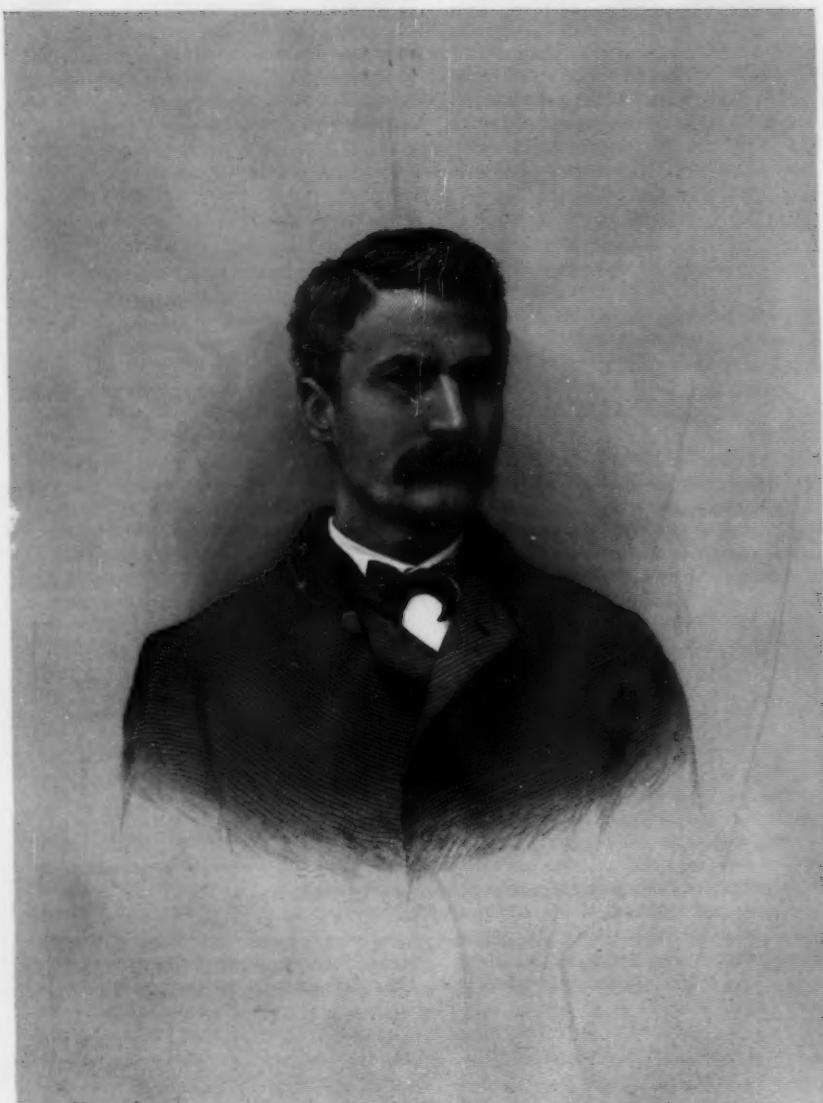
THE portrait of President Lee in the present number is the fourth in the series of leading American educators which was begun in the ECLECTIC a few months ago, and which already includes President Porter of Yale, President Eliot of Harvard, and Prof. Henry of the Smithsonian Institution. The family relationships of Mr. Lee, and his position as head of the most important educational institution of the South, render him a figure of interest to both our Northern and Southern readers, and the following biographical sketch will doubtless prove acceptable.

GEORGE WASHINGTON CUSTIS LEE, the eldest son of Gen. Robert E. Lee and grandson of George Washington Parke

Custis of Arlington, was born at Fortress Monroe, Va., September 16th, 1832. A soldier by birth and education, the record of his life is chiefly a military one.

Entering the West-Point Military Academy in 1850, he graduated at the head of his class in 1854, and was commissioned in the Corps of Engineers, U. S. Army. He continued in this service until 1861, being regarded as one of the most accomplished and promising young officers in the army.

In the spring of 1861 he resigned his commission and accepted service in the Confederate Army as Captain of Engineers. At the fall of Richmond, he held the rank of Major-General, and with his division was included in the surrender at



Engraved for the *Electric* by J.J. Cade New York.

PRESIDENT G. W. C. LEE.

(WASHINGTON & LEE UNIVERSITY.)



Appomattox. The military events of his service in the Confederate Army need not be mentioned here.

In the fall of 1865 he was appointed Professor of Engineering and Applied Mechanics in the Virginia Military Institute. He filled this office with marked ability and success as a teacher, until February, 1871, when he succeeded his distinguished father as President of Washington and Lee University (formerly Washington College).

In this position it is enough to say that he has shown himself worthy to carry forward the work of his lamented predecessor, and has maintained unbroken the confidence of his associates and of the public.

Impaired health has withdrawn President Lee from the active duties of his office for the past year; but it is expected that he will resume them with the beginning of the next term.

LITERARY NOTICES.

THE MAINTENANCE OF HEALTH. A Medical Work for Lay Readers. By J. Milner Fothergill, M.D. New-York: *G. P. Putnam's Sons.*

This work is a quite exceptionally successful attempt on the part of a specialist to make plain to readers of ordinary intelligence what are the conditions of health in the bodily organism, what influences and practices are most likely to imperil it, under the circumstances of our modern life, and what precautions and modes of living are necessary, in order to preserve it in its integrity. It is not a medical work; that is, it deals only to a very slight extent with the treatment and cure of disease, or with medicines. It is simply a clear, lucid, and popular exposition of the general laws of sound bodily health, and of the conditions which must be complied with in order that such health may be maintained.

The character of the work, indeed, is accurately defined in the following paragraph from the Introduction: "An account of man as he exists in health must be the foundation for an erection which will include the common deviations from the norm, the external causes that induce such deviation, the influence that affects us, the exigencies of the individual at times, and the proper line to be pursued under different circumstances and in varying positions. Bald, dogmatic statements are suited only to childish minds, and should ever be abandoned for the inculcation of a principle, wherever practicable. Hard and fast rules of thumb are always cutting both ways, and an intelligent comprehension is ever to be preferred. The one, however, does away with the necessity for individual thought, the other demands it. Any reader who objects to such exertion may as well at once lay aside this little book; it is unsuited to his wants, and it is mere waste of time to read further. All shall be made as plain as is possible and within the writer's power; but if

his or her thinking has to be done by deputy, and the statements made here be made to do duty instead of individual thought, the further perusal had better be at once abandoned. What is attempted here is to give such information about 'the casket of the soul' as will enable the lay reader to have some idea of his own frame and its physiology, and, by describing what health is, and how variations from it are brought about, to give him some general impressions as to what to do in order to be well and to keep well, under various and dissimilar circumstances."

The reading of a very few pages will suffice to convince the reader that the author has made no attempt to produce another of those "complete family physicians" which have tempted so many rash people to dispense with professional aid; but that his object is to impress the mind strongly with certain general principles which, once thoroughly grasped, are susceptible of easy application to special cases or conditions.

A large part of the book is devoted to an exposition of the conditions of health "In Youth," "In Maturity," and "In Advanced Life"—a physiological division, the importance of which has not been sufficiently emphasized in any previous popular treatise of the kind. Following these, are chapters on various special subjects, as "Food and Clothes," "Stimulants and Tobacco," "The Effects of Inheritance," "Election of a Pursuit in Life," "Overwork," "Mental Strain," and practical "Hygiene." One or two topics, such as the age of puberty in boys and girls, and the "Change of Life" in women, are treated of with a fulness and a frank practicality which would alone give the work a special value to mothers of families; and, unless we are mistaken, the chapter on "Alcohol" gives the best and fairest summary of the present conclusions of science concerning that difficult subject that has yet been written. It will not meet the views of the total-abstain-

ng propagandists, perhaps, but it presents considerations which can hardly fail to impress intelligent minds with the necessity of being wary in the use of alcoholic liquors. At least, it points out the real dangers of excessive indulgence, and must, of necessity, prove more effective as a restraint than the alarmist assertions which the experience of millions has disproved.

For the rest, the book is written in a style which, if lacking in grace, is clear and forcible; and the printing could be highly praised, if the proof-reading had been more careful.

THE NATURAL HISTORY OF MAN: A Course of Elementary Lectures. By A. De Quatrefages. Translated from the French by Eliza Youmans. New-York: *D. Appleton & Co.*

THE SCIENCE OF MUSIC; or, The Physical Basis of Musical Harmony. By Sedley Taylor, M.A. New-York: *D. Appleton & Co.*

These two works form the second and third volumes of the "Popular Science Library," a title under which the Messrs. Appleton propose to issue "a series of neat and attractive books, at the uniform price of a dollar each, that shall bring the varied and important results of modern scientific inquiry within easy reach of all classes of readers." These results are usually embodied in works so large that most people have neither money to buy nor time to read them; and the object of the Popular Science Library is to remedy this to a certain extent by presenting "a series of volumes—originals, translations, reprints, and abridgments—with copious illustrations, in all the departments of science that are of practical and popular interest."

"The Natural History of Man" consists of five lectures delivered by M. de Quatrefages to audiences of workingmen at Vincennes, and from this origin they take the advantage of being so simple, elementary, and untechnical as to be easily comprehended by all classes of readers. This, however, applies only to the style and method of exposition, and does not impair the fact that the substance of the lectures is the result of careful investigation and scientific thinking. The author, in fact, proves himself in these lectures to be a model popular teacher, and his little book is altogether the best popular introduction to the study of Anthropology that has yet appeared.

Professor de Quatrefages is an outspoken anti-evolutionist on the question of man's origin, and his opinions are equally pronounced on several other fundamental problems of natural history, which are still in hot dispute. For this reason, an appendix has been added

which includes the arguments of those who have reached conclusions adverse to those of M. de Quatrefages, and this feature will prove very useful to such readers as are not already familiar with the state of opinion upon the matter.

"The Science of Music" is of inferior popular attractiveness, perhaps, but it is nevertheless an admirably lucid and suggestive treatise on the elementary principles of a subject in which most of us feel more or less interest, and could be read with advantage by every one who cares to know more of music than that it is "a concord of sweet sounds." The author has aimed, in the preparation of his book, "at placing before persons unacquainted with mathematics an intelligible and succinct account of that part of the Theory of Sound which constitutes the physical basis of the Art of Music. No preliminary knowledge, save of arithmetic and of the musical notation in common use, is assumed to be possessed by the reader." And the importance of combining theoretical and experimental modes of treatment is kept steadily in view throughout. The treatise is one, we should say, which would prove peculiarly useful to those who are engaged in or who may contemplate teaching music.

Both volumes are copiously and usefully illustrated.

THE FRENCH REVOLUTION AND FIRST EMPIRE: An Historical Sketch. By William O'Connor Morris. New-York: *Scribner, Armstrong & Co.*

The present work is not equal, as an historical study, to the two first volumes of the "Epochs of History," the merits of which we have borne testimony to in a previous number of the ECLECTIC; but it is an excellent and trustworthy sketch of a period so full of events and crowded with catastrophes that it is very difficult indeed for the student to disentangle the main threads from the intricate web of minor details with which they are bound up. The very wealth of the literature of the Revolution is a source of embarrassment to the general reader; and the work of Mr. Morris, in drawing the broad outlines of the period, the details of which can be filled in at leisure, can not fail to be useful and acceptable.

We have already said that the book is trustworthy, but it is more than a careful and accurate register of facts; its tone throughout is judicial, temperate, and fair. Mr. Morris is almost the first English writer who, without being either a partisan or an apologist, has done simple justice to Napoleon; and his treatment of other leading figures in the great drama of the Revolution is such as to inspire

confidence in his work. The only point at which he seems to have permitted national prejudices to cloud the historical conscience is the paragraph on the rupture of the peace of Amiens, a part of the responsibility for which he casts (not by assertion, but by implication) on Napoleon. The truth is that the rupture was brought about by a scandalous breach of the terms of the treaty by England, made, as is perfectly evident, with the deliberate intention of precipitating a renewal of the war.

An extremely valuable feature, to be found only in Messrs. Scribner's edition of the work, is an "Abridged Bibliography of the Revolution," by President Andrew D. White, of Cornell University. This gives the titles of all the best works in French and English on the Revolutionary period, with critical and descriptive comments on each, and will prove an invaluable guide to such readers as may be tempted by this sketch to inform themselves more fully concerning the most important, the most impressive, and the most interesting epoch of modern history.

ENGLISH GRAMMAR. By the Rev. Richard Morris, M.A., LL.D. In the Series of Literature Primers. Edited by J. R. Green. New-York. *Macmillan & Co.*, 1875.

What with "Science Primers" written by such men as Professor Huxley, Professor Geikie, J. Norman Lockyer, and Balfour Stewart, and Primers of Literature and History prepared by the men most eminent in their special fields, the children of the future will enjoy a great improvement in the methods, or at least the instruments, of education over those which we, whose school-days are done, have to look back upon. The little primer of English grammar, for instance, which is the subject of this notice, can be mastered by an ordinarily bright class in a few lessons; and yet it is inadequate praise to say that it will lodge in the scholar's mind a better idea of the origin, development, and structure of the English language than any or all of the elaborate text-books with which the school curriculum has hitherto been burdened.

The only objection to its immediate introduction into schools as a substitute for these is, that children of the age at which, according to our usual grading of studies, they are expected to commence grammar, will not be able to understand it fully; and the absence of the many "rules" and numberless "examples," by which grammar has to be drilled into minds unprepared by previous knowledge to receive it, might cause it to leave but a faint impression upon their minds. The most experienced teachers, however, have come to the conclusion (a conclusion which is certainly confirmed by

common-sense) that the study of grammar is begun too early; and if this instruction in the anatomy of language were reserved until the student had acquired all that is to be taught him concerning its practical uses, then this Primer would furnish every thing that could be desired in the way of a text-book.

We can say further, that those of us in whose minds the results of school-drill are waxing faint, can not freshen our knowledge of an important subject in an easier or pleasanter way than by giving the little book a perusal.

CASTLE NOWHERE: Lake Country Sketches. By Constance Fenimore Woolson. Boston: *J. R. Osgood & Co.*

These stories have been compared by more than one critic to Mr. Aldrich's; rather unfortunately, we think, for Miss Woolson manifests none of the delicacy and playfulness of fancy, amounting at times almost to grotesquerie, or of that grace and finish of style which are the distinguishing characteristics of Mr. Aldrich's writing, whether in prose or poetry. Her stories, moreover, possess qualities of their own, quite positive enough to bear all the praise that any critic may care to bestow. They are full of spirit and incident; the sketches of character are fairly life-like, if a little hard in the outline; the dialogue is generally vivacious without being laboriously brilliant; the descriptions of scenery are vivid, picturesque, and give an impression of local truthfulness; the style is pleasing, though lacking in grace; and, above all, the stories are interesting and readable. The chief defect is that the sentiment has a tendency to run into sentimentality, and that, in striving to be effective, the author not seldom becomes sensational.

The lake country referred to in the sub-title is the region around Lakes Erie and Huron, which Cooper has made immortal. The region has of course changed vastly since Leatherstocking and those primitive heroes roamed over its wilds, though, if we may trust Miss Woolson, without losing any of its picturqueness.

The first story of the collection gives its title to the volume; the others are, "Peter the Parson," "Jeannette," "The Old Agency," "Misery Landing," "Solomon," "Wilhelmina," "St. Clair Flats," and "The Lady of Little Fishing." Several of these the reader will recognize as having appeared in one or other of the popular magazines.

THE article in the present number will be the last of the "Saxon Studies" that will appear in the ECLECTIC, Mr. Hawthorne having informed us that he has made arrangements

for the publication of the entire series by Messrs. J. R. Osgood & Co. (Boston), who will shortly issue them in book form. These studies are, to our mind, the most striking work that Mr. Hawthorne has yet done—the work which most clearly establishes his title to be regarded as a man of genius, and, what Mr. Galton would call, genius of the paternal type. The title of the book will be "Saxon Studies ; or Villages and Vagaries," and its appearance will doubtless be looked forward to with pleasure by those of our readers who have enjoyed the opening papers.

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FOREIGN LITERARY NOTES.

A LIBRARY has been established at Jerusalem, bearing the name of Sir Moses Montefiore.

MRS. LYNN LINTON, the author of 'Joshua Davidson' and 'Patricia Kemball,' has nearly finished another novel.

DR. FARRAR will, it is said, shortly write a "Life of St. Paul," which Messrs. Smith, Elder & Co. will publish.

MR. A. C. EWALD, of the British Public Records Office, has in the press a Life of Prince Charles Edward, drawn from the State papers and other unpublished documents.

THE French Academy will this year award, for the first time, the triennial prize of 3000f. founded by M. Guizot to the best work on one of the great epochs of French literature.

It is said that when, some weeks ago, offering the Grand Cross of the Bath to Mr. Carlyle, Mr. Disraeli mentioned that it was Her Majesty's wish to confer a pension at the same time from the Civil List ; but Mr. Carlyle declined both offers.

MESSRS. CHATTO & WINDUS (London) have in preparation an edition of Shakespeare which will be an inestimable boon to the reading public. It is a reproduction of the first folio, by a photographic process, the result of which will be an absolute facsimile in everything but size.

THE "Heathen Chinee" is to have another historian—and a more serious one than Mr. Bret Harte—in the person of Mr. Charles Leland, the author of *Haus Breitmann* and one or two works on the Romany dialects. His work relates to the legend of the Chinese discovery of America in the fifth century, and will be entitled *Fu-Sang*.

THE number of new books and new editions issued in Germany in 1868 was, we learn from the *Augsburger Allgemeine Zeitung*,

10,563 ; in 1869, 11,305. In 1870, owing to the war, the numbers fell to 10,108. In 1871 there was a slight recovery, the figures rising to 10,669. In 1872 there were 11,127, and in 1873, 11,315 published ; and last year, 12,070.

MR. A. R. WALLACE has been at work for several years on an elaborate book about the *Geographical Distribution of Animals*, and it will be published before very long by Messrs. Macmillan. It will be in two volumes, illustrated with two general maps, and many other maps and woodcuts, all designed to meet fully the requirements of study in this increasingly important subject.

MISS CHRISTINA ROSSETTI will shortly bring out, through Messrs. Macmillan and Co., a collected edition of her poems, uniting together the two previous volumes, the *Goblin Market* and *Prince's Progress*. These will be supplemented by the majority of the poems which the authoress has published in magazines, and probably by some few examples not heretofore printed. The *Prince's Progress* volume has been out of print this long while.

WE understand that Professor Stanley Jevons will contribute to the "International Scientific Series" a work entitled *Money, and the Mechanism of Exchange*. It will be a popular description of the functions of money, the substances employed at various times to make it, the actual systems of money used at present in different countries, international currency, schemes, etc. ; but the author will endeavor to avoid theoretical discussions on currency questions.

ALL readers of Ashantee literature are well aware that two Basle missionaries, Mr. Kühne and Mr. Ramseyer, with Mrs. Ramseyer, were captured at one of their out-stations by an Ashantee army in 1869, and were not given up till Sir Garnet Wolseley was known to be advancing on Coomassie. The diaries of Messrs. Kühne and Ramseyer have been edited and published in Germany, and a translation of the work will shortly be published in London. We are informed that at one time the missionaries could only keep up the record by scoring an old tin of preserved milk with a pair of scissors.

AN ingenious student of the little things of literature has recently been at pains to discover the crests and mottoes of some famous French writers. The result of his researches is somewhat curious. Victor Hugo's device is "Faire et refaire;" that of Michelet, the two words "Des ailes." Lamartine adopted "Spira, spera;" and Alexandre Dumas, a line not at all in accordance with his jovial

temperament, "Tout passe, tout lasse, tout casse." Balzac's signet bore the device "Raison m'oblige;" and that of Charles Nodier the commonplace emblem of a heart transfixed, with the original explanation "Raison le vent." Nourrit, the dramatic author, adopted the significant words, "Chut ! chut ! chut !"

THE literature of horrors is likely to be soon enriched by the publication of a work that has unaccountably hitherto escaped the keen eye of translator and bookmaker. This disinterred gem is the Memoirs of Sanson the hereditary French executioner, who officiated at the decapitation of Louis XVI. It is said that Sanson's son, who was also on the scaffold on the memorable January 21, had at the Restoration a secret interview with Louis XVIII., to whom he recounted minutely the death of the last French king. The Memoirs have become very rare even in France. They are written in the turgid and vulgarly sentimental style of a philanthropist whom fate has condemned to officiate at the guillotine. Before he died Sanson founded a perpetual anniversary mass for the repose of the soul of Louis XVI.

MR. HALLIWELL, in his lately-published *Illustrations of the Life of Shakespeare*, said that the last chance of finding Shakespeare's papers was to search behind the panelings of the old house of Lady Barnard, the granddaughter and last lineal descendant of Shakespeare. This house is Abington Abbey, Northampton, which belongs to Lord Overstone, and is tenanted by Dr. Thomas Prichard. At Mr. Furnivall's instance, Lord Overstone and Dr. Prichard have most kindly given leave that the search may be made this season, at such time and in such manner as shall be convenient to the tenant. Mr. Halliwell has generously undertaken to bear the expense of the search, which will be conducted by an architect under his direction; and if success attends his enthusiastic endeavors to exhaust every possible chance of discovering traces of the great poet, the result will be only what the seeker deserves.

ONE of the best known and most interesting essays of Edgar Allan Poe is that entitled the 'Philosophy of Composition,' in which he gives an account of the genesis of his poem, 'The Raven.' Few probably have accepted as quite genuine the theory of origin advanced, and the essay was probably to some extent a joke of Poe's with his readers. It is probable that the first suggestion of 'The Raven' came from two poems by Mr. Tennyson, published in 'The Gem' for 1831, and included, we believe, in no collection of

the poet's works. The first poem is entitled 'No More,' and seems worthy, in all respects, of preservation.

Oh sad *No More!* Oh sweet *No More!*

Oh strange *No More!*

By a mossed brookbank on a stone

I smelt a wildweed-flower alone;

There was a ringing in my ears,

And both my eyes gushed out with tears.

Surely all pleasant things had gone before,
Low buried fathom deep beneath with thee, No More !

The second poem is decidedly inferior, and contains a Cockney rhyme of a sufficiently prominent character. It is entitled 'Anacreontic.'—

With roses musky breathed,
And drooping daffodilly,
And silver-leaved lily,
And ivy darkly-wreathed,
I wove a crown before her
For her I love so dearly,
A garland for Lenora.
With a silken cord I bound it.
Lenora, laughing clearly
A light and thrilling laughter,
About her forehead wound it,
And loved me ever after.

It is not suggested that Poe took from these verses more than the name Lenora or Lenore, and the burden "Never More." The connexion of the two in 'The Raven' renders all but certain that the author had come across the book in which the poems appear.—*Athenaeum.*

SCIENCE AND ART.

INGENUITY OF FOXES.—Foxes are much tormented with fleas, and when the infliction becomes severe, they gather, from the bark of trees, moss, which they carry in their mouths to the side of a stream where the water deepens by degrees. Here they enter the water, still carrying the moss in their mouths; and going backwards, beginning from the end of their tail, they advance by slow degrees, till the whole body of the animal, with the exception of the mouth, is entirely immersed. The fleas, during this proceeding, have rushed successively in rapid haste to the dry parts, and finally to the moss; and the fox, when he has, according to his calculation, allowed sufficient time for all the fleas to take their departure, quietly opens his mouth. The floating moss, with its interesting freight, is carried away by the stream, and the animal finds its way back to the bank, with an evident feeling of much self-satisfaction at having thus freed himself from his tormentors.—A. Paladilhe, in *Nature*.

SPECTRA OF STARS.—From his examination of the spectra of stars, Professor d'Arrest has come to the conclusion that color can not be taken as a certain indication of the nature of

the spectrum, and that the connection between color and temperature, though not improbable, has not been satisfactorily established ; while the assertion that the red stars are older than the yellow, and the yellow than the white, is, according to M. d'Arrest, entirely without foundation. The spectroscopic examination of stars which M. d'Arrest has made at Copenhagen has resulted in increasing the number of stars of Secchi's third type threefold. These stars are distinguished by channelled spectra, indicating that their temperature is so low that combination of the elements in their atmospheres has taken place.

THE STONE AGE OF EGYPT.—The importance of studying the stone implements of Egypt arises from the immense antiquity of the historic records of that country, an antiquity which, if the chronology of Manetho is to be relied upon, carries us back to at least 4000 B.C. In February, 1869, M. Arcelin communicated to the *Mémoires pour l'histoire de l'Homme* the discovery of stone implements in various places in the valley of the Nile, and this was subsequently confirmed by MM. Hamy and Lenormant. The enquiry having been taken up by M. Lepsius, he announced his conviction in the *Bulletin de l'Institut Egyptien* that the so-called implements were not the work of human hands, but are due to the action of the sun ; in this view he was supported by M. Chabas. Sir John Lubbock having visited Egypt in the autumn of 1874, has set this part of the question at rest, proving by means of illustrations published in the last number of the *Journal of the Anthropological Institute*, that the flints are, without doubt, of human workmanship, and consist of flakes, scrapers, and other tools, of the forms common to the Stone period of Europe. Mariette-Bey, whose discoveries tending to confirm the chronology of Manetho are so well known to Egyptologists, now enters into the discussion, and, while admitting the human origin of the flint tools, expresses his belief that they are all of the historic age of Egypt, urging in support of his views that like implements of flint are found in the graves of the Egyptians, ranging over a period of 4000 years, and that in the Nile valley they are found only on the surface. Against this Sir John Lubbock argues that although found in the Egyptian graves, they were employed only as survivals for ceremonial observances, and that no traces of the use of flint for cutting purposes are to be found in the rubbish heaps of the Egyptian artificers, which would certainly have been the case had they been used as tools during the historic age. And as regards the argument derived from the sites, M. Emile Cartailhac justly remarks in the *Mémoires* that implements of the prehis-

toric no less than the historic age may be found upon the surface. On the other hand, implements proved to be prehistoric in Europe may well be contemporaneous with the historic period of Egypt. And although analogy would lead us to expect that a Stone age existed in Egypt as elsewhere, this can not be considered as proved until these implements have been discovered beneath the alluvial deposits of the Nile. M. Arcelin, whose name stands at the head of this controversy, has already shown grounds for believing that this result may be obtained.

We may look forward to a vigorous combat between the historians and prehistorians in the future of this discussion. The controversy, so far as it has gone, while it brings prominently to light the necessity for specialisation in so vast a field as anthropology, proves also the importance of co-operation between the students of the different branches of anthropological investigation.

USE OF THE MICROSCOPE IN DETERMINING THE STRUCTURE OF ROCKS.—From a paper read at a recent meeting of the Geological Society, we learn that the microscope has become of importance in determining the structure of rocks, and that, in consequence, certain rocks about which doubts prevailed can now be classified with certainty. For example, there are groups of volcanic rocks, and the microscope has enabled the observer to determine which are the oldest rocks in the several series. This has been an exceedingly difficult question, for the reason that volcanic rocks and even ashes have been strangely 'metamorphosed' by the action of heat subsequently to their first ejection. It is now possible to distinguish between a 'normal lava' and the reconsolidated ashes ; and in discussing the paper, Mr. David Forbes explained the difference between volcanic ash and tuff or tufa. The ashes, as he states, are purely sub-aërial formations thrown out of the volcanic orifice, and falling down on land or water according to local conditions. Tuffs, on the contrary, are molten lava poured out into or under water, whereby they become at once cooled and disintegrated into fragments or powder, in proportion as the action of the water proved more or less overpowering. Professor Ramsay followed with the remark, that in the volcanic region of Wales the ashes had been thrown out of old Silurian volcanoes, first beneath the surface of the sea, and afterwards above water, as the vents increased in height. The green slates, he said, were fine ashes thrown out upon land.

METALLIC DUST IN THE ATMOSPHERE.—We all know that 'blacks' are plentiful in the air above our great towns ; and Dr. Angus Smith

of Manchester has discovered various kinds of dust in the rain-water of that neighborhood. But Professor Nordenskjöld of Stockholm, having caught falling snow, found in it minute particles of metal which he supposed to be iron, as they were attracted by the magnet. Examination of hailstones that fell at Stockholm, and of snow from icebergs in latitude eighty degrees, brought similar particles to light; and it now appears that this metallic dust is composed of iron, nickel, cobalt, carbon, and phosphoric acid. This remarkable discovery has prompted the suggestion, that the flashes and streams of light seen during displays of the aurora may be due to this dust having become incandescent by friction in our atmosphere. The peculiar striped appearance assumed by the light on some occasions might then be regarded as an effect of terrestrial magnetism. The question is a curious one, and will, no doubt, be further investigated. Are there countries where iron dust is more plentiful than in others; and are the inhabitants of those countries more vigorous than the people whose atmosphere has no iron? The Polar Expedition might investigate the question during the weary hours when they are frozen in.—*Chambers's Journal.*

IRON DEPOSITED BY ELECTRICITY.—It has been known for many years that iron can be deposited by means of electricity: as a scientific fact, it was interesting to metallurgists; but the iron so deposited was too brittle to be useful. Of late years, the process has been modified and improved, and Mr. Klein of St. Petersburg can now produce electro-deposited iron which is 'perfectly malleable, eminently flexible and elastic, and, like sheet-steel, may be welded. In a word, it possesses all the characteristics of an excellent forged iron.' Considering the numerous applications of which iron is capable, this process is likely to become of great value.

THE ZODIACAL LIGHT.—This phenomenon has been unusually conspicuous all through the past winter, though ordinarily it is only seen in autumn before sunrise, and in spring after sunset, at which times the position of the ecliptic (along which it extends on both sides of the sun) is favorable. M. Gruey, of the Toulouse Observatory, has carefully laid down its position among the stars on eight different occasions, the observations being given in the *Comptes Rendus*; he also calls attention to a remarkable observation by M. Perrotin, who saw the zodiacal light extend right across the heavens from the east to the west, showing clearly that this appendage of the sun extends beyond the earth.

THE ENGLISH POLAR EXPEDITION.—As regards the Polar Expedition, the preparations are going on actively. The two ships, *Alert* and *Bloodhound*, are being strengthened to the utmost, so that they may resist the pressure of ice. The victualling department is engaged in cooking and compressing food of the best kind into the smallest possible space; and the navy sailors are busy over thick clothing, and fur coats and jackets, which may enable the crews to set the cold at defiance. As usual, when scientific advice is wanted, the Royal Society have been appealed to by the Admiralty, and they have recommended for appointment two naturalists who are to do what is needful for the botany, geology, and zoology of the countries and seas which we may hope will be discovered and explored. And in order that all on board may know what is needful, the Council of the Society have undertaken to prepare a Manual of advice and instruction in Physical Science, Natural History, Geology, and Ethnology; and the Geographical Society are to do the same for Physical Geography. So far, therefore, as knowledge and power can serve, the expedition will possess two essential elements of success.

AFRICAN EXPLORATION.—The intelligence has arrived that the Sultan of Zanzibar has abandoned his claims to Unyanyembe. The Arab traders, therefore, will be left to their own devices, and if they are unable to maintain their ground, they will have to abandon their stockades and quit the country. This will increase the difficulties of geographical explorers, as there will be no longer a halting-place between Zanzibar and Lake Tanganyika.

STEEL WIRE FOR DEEP-SEA SOUNDINGS, ETC.—Steel wire is made for the strings of pianofortes. Sir William Thomson recommends that a wire of this kind should be used instead of a rope for deep-sea sounding. For this purpose it has many advantages: its weight and friction are exceedingly small in comparison with the weight and friction of a rope. A sounding in a depth of two thousand seven hundred fathoms has been taken with a steel wire in the Bay of Biscay with complete success. The sinker weighed thirty pounds, and brought up in the tube attached to it a specimen of the bottom. To facilitate the hauling up, Sir W. Thomson makes use of a supplemental pulley, which bears the weight of the sinker while the wire is wound without strain on the principal roller. To preserve the wire from rust, when out of use, it is kept always immersed in a solution of caustic soda. The small space in which three

thousand fathoms of steel wire can be packed, is a further advantage, that will no doubt be considered in the fitting-out of ships in which economy of stowage is essential.

Steel wire is now used in the manufacture of ships' cables and tow ropes. The ropes and cables thus produced are remarkable for their strength and flexibility, and for the small space they occupy in comparison with hemp-ropes and chain-cables. A rope two inches in diameter will bear a strain of one hundred tons without breaking: the strength is uniform throughout; whereas, on testing chain-cables, defective links are always discovered. The cost, too, is moderate. A ship of three thousand tons must have three hundred and sixty fathoms of two-and-a-half-inch chain-cable, which weighs forty-five tons, costs about twelve hundred pounds, and is tested up to ninety-one tons of breaking-strain. A steel cable five and a half inches in circumference, equal, as above stated, to more than one hundred tons of strain, costs four hundred pounds only.

THE RED CORPUSCLES OF THE BLOOD.—The fluid part of the blood, as some readers know, is almost as colorless as water. The red color is produced by red corpuscles, which float in the fluid in such quantities that it appears to be red throughout. These corpuscles, or little bodies, which owe their color to the presence of iron, are in shape something like silkworm's egg, but are so small that they can be distinguished only with the aid of a microscope. Their number varies with the state of health, and sometimes they are so few that great paleness of the skin is the result, and the health is weakened. Some observers are of opinion that the number of corpuscles varies with the rise and fall of the barometer; but of this there is no sufficient proof. But it is a fact that a French physiologist has devised a method by which the corpuscles can be counted. Hence regular daily observations on the condition of the blood, and, consequently, of the health, can be carried on under different circumstances. M. Malassez, the physiologist referred to, has made his observations, after repose, after exercise, after food, after baths, and in town and in country. Exercise increases the number of red corpuscles, and at the same time the fluids of the body are diminished by perspiration. In country air, the number is much larger than in town air, and is larger also in winter than in summer.

The effect of baths has not yet been satisfactorily ascertained; but taking the general result, it is clear that this method of diagnosis may become of importance in the hands of medical practitioners.

VARIETIES.

ARAB WOMEN.—The dress of an Arab woman of the lower class is more simple than elegant: it consists of a habaya, a kind of linen chemise with wide sleeves, tied round the waist with a cord, like the habit of a cappuchin. In the street, all this is covered by a hatk, which does not, however, hide her bare legs adorned with silver or copper anklets. She wears large earrings, which are almost hidden under the mass of hair twisted about them, whilst a profusion of necklaces, amulets, coral and glass beads, fall over her tatooed neck and bosom. These things belong to the wife personally, being settled on her by a marriage stipulation in case of abandonment or divorce. Thus, she puts them on as often as possible, for the display of such finery is one of the few pleasures she enjoys, so the most is made of it. Sometimes she dyes her hands, and always her nails, with the orange tint of henna, and is fond of the scent called souak. She, like her Moorish sisters, also attempts to improve upon nature by blackening the lashes of her large eyes with koheul. The adjar worn in Algiers and other large towns was unknown before the time of Mahomet, who introduced it to serve his own personal jealousy; thus the distrustful disposition of one man has condemned all Muslim women to pass through life with a kerchief over the face. This law of the Prophet is one of many which has contributed to degrade woman in her social position. Whenever they—the young at least—can remove the *jalousie*, which not only conceals their charms, but prevents them from breathing the air of heaven freely, they take it off; thus we often meet women unveiled in the country, when no Arab is near. If they see one approaching they immediately replace the veil, but they are not equally particular when they meet a Roumi, so that many opportunities of seeing their faces are offered, even in the neighborhood of Algiers and Oran. In the Kabylie the adjar is not worn; for the Kabyle, who makes a companion of his wife and treats her as his equal, is not so suspicious as the Arab. Young Arab and Moorish women, we may remark, cover the face because they are ordered to do so; the old find it convenient policy, for, like charity, it hides many defects. Thus old women are in general very strict in wearing the adjar themselves, and are as little indulgent to young ones who are caught without it as the jealous husband himself; the reason being envy in the one case and mistrust in the other. Some of the sex allow one eye only to be seen. These, instead of the usual adjar, draw their drapery, which covers them from head to foot, over the face,

leaving a little hole for the solitary optic to peep through. We have often, in our rambles in the country about Algiers, met with women thus muffled up—and still more frequently in out-of-the-way places farther off, who, on noticing our apparent speculation on the countenance which offered only one black eye to guide us in our conjectures, suddenly let the curtain fall, as they laughingly showed us a face which had no cause to fear being exposed ; this was done with a merry look which seemed to say, "How do you like it ? Does it please you?" In the same way, we have seen girls in the Arab quarter of Algiers, on arriving at their own homes, take off the adjar on the threshold to allow us a single glance, as they closed the door on us and on our curiosity.—"Algeria as it is." By George Gaskell.

ASSISTING AT AN ECLIPSE.—The Chinese view an eclipse with wonder, mingled, to a great extent, with fear and terror, and most of them take some steps to aid the sun or moon, as the case may be, in the hour of need, the principal agents employed being, of course, gongs and gunpowder, without which no ceremonial observance of any kind is complete. The officials at their several yamêns (official residences) go through a regular set ceremonial on these occasions. They call in the aid of Taoist priests, and an incense-vase and a pair of large candlesticks, containing red candles for luck, are placed on a table in the hua-ting, or audience-hall, but sometimes in the court in front of it. When the eclipse is beginning, the red candles are lighted, and the official enters, dressed in his robes of state. He takes some lighted incense-sticks in both hands, and bows low in front of the table, waving the incense about, according to custom, before placing it in the vase. He next proceeds to perform the ceremony of "ko-tou" (literally, knock-head), kneeling down thrice, and knocking his head nine times on the ground. He then gets up, and huge gongs and drums are beaten to frighten the devouring monster away ; and finally the priests march round the table in solemn procession, repeating certain prescribed formulas in a sing-song tone, until the termination of the eclipse. The officials are, of course, always supposed to be successful in their endeavors to rescue the sun and moon from their perilous position, and the ignorant masses in China fully believe that the happy result is brought about by the ceremonies just described.—*All the Year Round.*

ORIGIN OF THE NAME AMERICA.—There is the strongest evidence that this word, denoting the range and the rocks of Amerrique, Amerique

or Americ, is an indigenous word, the terminal *ique* or *ie* being common for the names of locality, in the language of the Lenca Indians of Central America, a part of Mexico ; and that this name has been perpetuated without alteration since the discovery of the New World, by the complete isolation of the Indians who live in this part of the continent, who call their mountains by the same word to-day as they did in 1502, when Colombo visited them—Amerrique, Amerique, or Americ. These mountains are auriferous ; at their foot lie the gold mines of Libertad and Santo Domingo, and further, the gold of the alluvium or the placers is entirely exhausted, which can only be explained through a previous washing by the Indians themselves ; at present the gold is to be found only in the veins of quartz rock. Colombo says the Indians named several localities rich in gold, but he does not give the names in his very curtailed account, contenting himself with citing the name of the province of Ciamba ; but it is highly probable that this name Americ or Amerrique was often pronounced by the Indians in answer to the pressing demands of the Europeans of the expedition. The eagerness for gold was such among the first navigators that it formed their chief preoccupation everywhere ; and it is almost certain that to their continual questions as to the place where the gold was found that the Indians wore as ornaments, the reply would be, from Americ, this word signifying the most elevated and conspicuous part of the interior, the upper country, the distinguishing feature of the province of Ciamba. It does not follow that Colombo was ignorant of the word Americ because he has omitted it in the Lettera Rarissima, which was addressed by him to his Catholic Majesty, the powerful King of Spain. It is evident, from his mention of several places where gold was to be found, as the Indians had told him without giving their names, that he did not tell all he knew ; and it must be remembered that the Lettera Rarissima was written under the most painful circumstances. He was a prisoner in the island of Jamaica, loaded with chains, old, infirm, and overwhelmed by suffering and injustice, and not in a position to make a very full report of his expedition. His account of his fourth voyage is the least clear and precise of all his writings, showing in its confused and melancholy style the sad condition to which he was reduced, and although the name Americ is not seen therein, the region may have been considered by Colombo and his companions as an unexplored El Dorado, occupying the interior of the country in the province of Ciamba, along the coasts of which they had navigated. We may suppose that Colombo and his companions, on their return to Europe,

when relating their adventures, would boast of the rich gold mines they had discovered through the Indians of Nicaragua, and say they lay in the direction of Americ. This would make popular the word Americ, as the common designation of that part of the Indies in which the richest mines of gold in the New World were situated.—*Atlantic Monthly.*

SONG.

In the days when Earth was young,
Love and Laughter roamed together :
Love took up his harp and sung,
Round him all was golden weather,
But there came a sigh anon—
What will be when Life is gone ?

Laughter then would try his skill,
Sang of mirth and joy undying :
But he played his part so ill,
He set Echo all a-sighing.
Ever came an undertone—
What will be when Life is done ?

Then for ever since that time,
Love no more can live with Laughter :
For bright as is the Summer-prime,
Winter pale will follow after,—
Love henceforth must dwell with Sighs :
Joy was left in Paradise.

A PROFESSOR OF CONVERSATION.—We learn by a paragraph in the *London Globe* that a new trade has been struck out—the teaching of people to converse in a pleasant way on various subjects, or what might more properly be called cramming, to take a part in ordinary conversation. Not a bad idea, if elocution and the art of getting over bashfulness are at the same time attended to ! The following is the paragraph in question :

'Boswell relates that Johnson used to say the happiest conversation is that of which nothing is distinctly remembered but a general effect of pleasing impression. It is almost universally admitted nowadays that even that humble effect has passed away, and that the guests of drawing or dining-rooms are, as a rule, dull and stupid. It is no use stopping to inquire why it is so, although there is a very good reason for the melancholy fact. There are, however, bright prospects for us in the future. We have only to take a trip to Paris, and there is a gentleman there—nay, more, a Baron—whose pupils, after a short intercourse with him, and the deposition of a small fee, will be able, after future successes, to address him : "We are now able,

Formed by thy converse happily to steer
From grave to gay, from lively to severe."

For the Baron H— has the honor to announce, through the French papers, that he is now in Paris, and that, being endowed with a remarkable talent for conversation,

which has been nurtured by the profoundest study—a rare combination in these days—and having amassed, in his frequent and varied travels, a fund of instructive and interesting observations, he is enabled to place his talents at the disposal of those masters and mistresses of houses who are much exercised at being unable to converse fluently. The Baron will either impart his instruction abroad or at home. His drawing-room is open to subscribers twice a day, and is the rendezvous of a select circle, the subscription being only a sovereign a month. Three hours of his day are consecrated to an instructive but amiable chat on the news of the day, literary and artistic subjects, observations on manners, over which an archness, unmixed with malignity, will preside ; and a few discussions on various subjects, from which politics will be strictly excluded, will make up an agreeable evening's *séance*. The evenings abroad are more expensive. In the first place, the Baron declines to dine out more than three nights a week. He charges twenty francs for dinner, but the evening party afterwards is not included in that sum, which lets in a fierce light on the Baron's sagacity. Separate arrangements must be made for puns and *jeux de mots*. The Baron will also supply guests, suitably attired, who will sustain and vary the conversation, when those who employ them do not care to take the trouble to make replies or observations. Can these be the ancient "Adelphi guests" who have so mysteriously disappeared ? And these guests may in the daytime be hired as friends by foreigners, or persons not in society. How willingly would the late Mr. Thackeray have paid his subscription to the amiable Baron, and how much the world has lost by his not living to do so.'

WALTER SAVAGE LANDOR.

Catulle-frater, ut velim comes tibi
Remota per vireta, per cavum nemus
Sacrumque Ditis haec inhospiti specus,
Pedem referre, trans aquam Stygis ducem
Secutus unum et unicum, Catulle, te,
Ut ora vatis optimi reviserem,
Tui meique vatis ora, quem scio
Venustiorenam adisse vel tuo lacum,
Benigniora semper arva vel tuis,
Ubi serenus accipit suos deus,
Tegitque myrtus implicata laurea,
Manique mulcet halituque consecrat
Fovetque blanda mors amabili sinu,
Et ore fama fervido colit viros
Alitque qualis unus ille par tibi
Britannus unicusque in orbe praestitit
Amicus ille noster, ille ceteris
Poeta major, omnibusque floribus
Prior Landon inclitum rosa caput
Revinxit extulitque, quam tua manu
Recepit ac refovit integrum sua.

ALGERNON CHARLES SWINBURNE.